Crystal Bibliography

Keywords: acceptance angle, bandwidth, chirp, chirped pulse amplification, compositional tuning, conductivity, crystal growth, crystal structure, cw, damage, d_{eff}, d_{ij}, difference-frequency, efficiency, femtosecond, ferroelectric poling, flourescence, group velocity, lasing, M^2, n_2, nanosecond, OPA, OPF, OPG, OPO, optical rectification, phasematch, picosecond, pump tuning, quasiphasematch, Raman, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning, THz, thermal conductivity, thermal expansion, transmission, two-photon absorption, walkoff angle, waveguides

ADA:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

AD*A:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

ADP:

L. Gallmann, G. Steinmeyer, D. H. Sutter, N. Matuschek, and U. Keller, "Collinear type II second-harmonic-generation frequency-resolved optical gating for the characterization of sub-10-fs optical pulses," Opt. Lett. **25,** 269-271 (2000). Keywords: femtosecond, sum-frequency

G. C. Ghosh and G. C. Bhar, "Temperature dispersion in ADP, KDP, and KD*P for nonlinear devices," IEEE J. Quant. Electron. **QE-18,** 143-145 (1982). Keywords: difference-frequency, phasematch, Sellmeier, temperature tuning

Hagimoto and A. Mito, "Determination of the second-order susceptibility of ammonium dihydrogen phosphate and alpha-quartz at 633 and 1064 nm," Appl. Opt. **34,** 88276 (1995). Keywords: d_{ij} , sum-frequency

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

C. D. Marshall, S. A. Payne, M. A. Henesian, J. A. Speth, and H. T. Powell, "Ultraviolet-induced transient absorption in potassium dihydrogen phosphate and its influence on frequency conversion," J. Opt. Soc. Am. B **11,** 774-785 (1994). Keywords: two-photon absorption

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical

crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

AD^*P:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

G. Su, X. Zhuang, Y. He, Z. Li, G. Li, and J. Ma, "Crystal growth and characterization of deuterated ammonium dehydrogen phosphate (DADP)," J. Cryst. Growth **242,** 129-131 (2002). Keywords: crystal growth, crystal structure, transmission

$AgGaGe_nS_{2(n+1)}$:

V. Badikov, G. Shevyrdyaeva, V. Chizhikov, V. Panyutin, G. Xu, V. Petrov, and F. Noack, "Phase-matched second-harmonic generation at 1064 nm in quaternary crystals of silver thiogermanogallate," Appl. Phys. Lett. **87,** 241113 (2005). Keywords: acceptance angle, d_{ij}, phasematch, Sellmeier, temperature-bandwidth, transmission, walkoff angle

K. Miyata, V. Petrov, N. Umemura, K. Kato, N. Saito, and S. Wada, "New experimental results for SHG and DFG in $AgGaGeS_4$," SPIE **6455,** 645514-1-5 (2007). Keywords: difference-frequency, phasematch, Sellmeier, sum-frequency, transmission

V. Petrov, V. Badikov, G. Shevyrdyaeva, V. Panyutin, and V. Chizhikov, "Phase-matching properties and optical parametric amplification in single crystals of $AgGaGeS_4$," Opt. Mat. **26,** 217-222 (2004). Keywords:
acceptance angle, crystal growth, crystal structure, damage, d_{ij}, efficiency, femtosecond, OPA, phasematch, Sellmeier, sum-frequency, transmission

P. G. Schunemann, "Growth of new quaternary nonlinear optical crystals for 1-micron-pumped mid-IR generation," SPIE **6103,** 610303-1-11 (2006). Keywords: crystal growth, damage, phasematch, thermal conductivity, transmission

P. G. Schunemann, K. T. Zawilski, and T. M. Pollak, "Horizontal gradient freeze growth of $AgGaGeS_4$ and $AgGaGe_5Se_{12}$," J. Cryst. Grow. **287,** 248-251 (2006). Keywords: crystal growth, damage, thermal conductivity, transmission

$AgGaGe_5Se_{12}$:

P. G. Schunemann, K. T. Zawilski, and T. M. Pollak, "Horizontal gradient freeze growth of $AgGaGeS_4$ and $AgGaGe_5Se_{12}$," J. Cryst. Grow. **287,** 248-251 (2006). Keywords: crystal growth, damage, thermal conductivity, transmission

V. Petrov, F. Noack, V. Badikov, G. Shevyrdyaeva, V. Panyutin, and V. Chizhikov, "Phase-matching and femtosecond difference-frequency generation in the quaternary semiconductor $AgGaGe_5Se_{12}$," Appl. Opt. **43,** 4590-4597 (2004). Keywords: crystal growth, d_{ij}, difference-frequency, femtosecond, phasematch, Sellmeier, sum-frequency, transmission, walkoff angle

$AgGaS_2$:

R. L. Aggarwal and T. Y. Fan, "Measurement of thermooptic coefficients dn_e/dT and dn_o/dT of $AgGaS_2$ at 308 and 97 K," IEEE J. Quant. Electron. **41,** 1319-1322 (2005). Keywords: Sellmeier, thermal expansion

G. C. Bhar, D. K. Ghosh, P. S. Ghosh, and D. Schmitt, "Temperature effects in $AgGaS_2$ nonlinear devices," Appl. Opt. **22,** 2492-2494 (1983). Keywords: phasematch, dn/dT

S. Banerjee, N. Umemura, and K. Kato, "Sellmeier and thermo-optic dispersion formulas for $AgGa(S_{1-x}Se_x)_2$ with application in mid-IR generation," SPIE **6103,** 610314 (2006). Keywords: phasematch, Sellmeier, temperature tuning

P. Canarelli, Z. Benko, R. Carl, and F. K. Tittel, "Continuous-wave infrared laser spectrometer based on difference frequency generation in $AgGaS_2$ for high-resolution spectroscopy," J. Opt. Soc. Am. B **9,** 197-202 (1992). Keywords: differency-frequency, phasematch, efficiency, bandwidth

E. C. Cheung, K. Koch, and G.T. Moore, "Measurements of second-order nonlinear optical coefficients from the spectral brightness of parametric fluorescence," Opt. Lett. **19,** 168-170 (1994). Keywords: d_{eff}, d_{ij}, fluorescence

T. Dahinten, U. Plodereder, A. Seilmeier, K. L. Vodopyanov, K. R. Allakhverdiev, and Z. A. Ibragimov, "Infrared pulses of 1 picosecond duration tunable between 4 μm an 18 μm," IEEE J. Quant. Electron. **29,** 2245-2250. Keywords: phasematch, difference-frequency, efficiency

H. Delbarre, C. Przygodzki, M. Tassou, and D. Boucher, "High-precision index measurement in anisotropic crystals using white-light spectral interferometry," Appl. Phys. B **70,** 45-51 (2000). Keywords: group velocity, Sellmeier

Douillet and J.-J. Zondy, "Low-threshold, self-frequency-stabilized $AgGaS_2$ continuous-wave subharmonic optical parametric oscillator," Opt. Lett. **23,** 1259-1261 (1998). Keywords: efficiency, OPO, temperature tuning

S. Ehret and H. Schneider, "Generation of subpicosecond infrared pulses tunable between 5.2 μm and 18 μm at a repetition rate of 76 MHz," Appl. Phys. B **66,** 27-30 (1998). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, group velocity

B. Golubovic and M. K. Reed, "All-solid-state generation of 100-kHz tunable mid-infrared 50-fs pulses in type I and type II $AgGaS_2$," Opt. Lett. **23,** 1760-1762 (1998). Keywords: difference-frequency, efficiency, femtosecond

S. Haidar and H. Ito, "Injection-seeded optical parametric oscillator for efficient difference frequency generation in mid-IR," Opt. Comm. **171,** 171-176 (1999). Keywords: difference frequency, efficiency, OPO

S. Haidar and H. Ito, "Periodically poled lithium niobate optical parametric oscillator pumped at 0.532 μm and use of its output to produce tunable 4.6-8.3 μm in $AgGaS_2$ crystal," Opt. Comm. **202,** 227-231 (2002). Keywords: difference frequency, efficiency, phasematch

S. Haidar, Y. Sasaki, E. Niwa, K. Masumoto, and H. Ito, "Electro-optic tuning of a periodically poled $LiNbO_3$ optical parametric oscillator and mixing its output waves to generate mid-IR tunable from 9.4 to 10.5 μm," Opt. Comm. **229,** 325-330 (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch

H. Kildal and G. W. Iseler, "Laser-induced surface damage of infrared nonlinear materials," Appl. Opt. **15,** 3062-3065 (1976). Keywords: damage

H.-D. Kronfeldt, G. Basar, and B. Sumpf, "Application of a cw tunable infrared spectrometer based on difference-frequency generation in $AgGaS_2$ for self-broadening investigations of NO at 5 μm," J. Opt. Soc. Am. B **13,** 1859-1863 (1959). Keywords: phasematch, difference-frequency, efficiency

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

H. Maekawa, K. Tominaga, and D. Podenas, "Generation of 55 fs-mid-infrared pulses with a 300 cm^{-1}-spectral width and μJ-pulse energy," Jpn. J. Appl. Phys. **41,** L329-L331 (2002). Keywords: efficiency, femtosecond, group velocity, OPA, OPG

K. J. McEwan, "High-power synchronously pumped $AgGaS_2$ optical parametric oscillator," Opt. Lett. **23,** 667-669 (1998). Keywords: damage, d_{eff}, efficiency, OPO, picosecond, transmission

A. O. Okorogu, S. B. Mirov, W. Lee, D. I. Crouthamel, N. Jenkins, A. Yu. Dergachev, K. L. Vodopyanov, and V. V. Badikov, "Tunable middle infrared downconversion in GaSe and $AgGaS_2$," Opt. Comm. **155,** 307-312 (1998). Keywords: difference-frequency, efficiency, phasematch, transmission

D. A. Roberts, "Dispersion equations for nonlinear optical crystals: KDP, $AgGaSe_2$, and $AgGaS_2$," Appl. Opt. **35,** 4677-4688. Keywords: Sellmeier

F. Rotermund and V. Petrov, "Mid-infrared femtosecond optical parametric generator pumped by a Cr:forsterite regenerative amplifier at 1.25 μm," Appl. Phys. B **70,** 731-732 (2000). Keywords: efficiency, femtosecond, group velocity, OPG

F. Rotermund, V. Petrov, and F. Noack, "Difference-frequency generation of intense femtosecond pulses in the mid-IR (4-12 μm) using $HgGa_2S_4$ and $AgGaS_2$," Opt. Comm. **185,** 177-183 (2000). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, OPG, phasematch, transmission

U. Simon, C. E. Miller, C. C. Bradley, R. G. Hulet, R. F. Curl, and F. K. Tittel, "Difference-frequency generation in $AgGaS_2$ by use of single-mode diode-laser pump sources," Opt. Lett. **18,** 1062-1064 (1993). Keywords: difference-frequency, efficiency

U. Simon, S. Waltman, I. Loa, F. K. Tittel, and L. Hollberg, "External-cavity difference-frequency source near 3.2 μm, based on combining a tunable diode laser with a diode-pumped Nd:YAG laser in $AgGaS_2$," J. Opt. Soc. Am. B **12,** 323-327 1995). Keywords: difference-frequency, bandwidth, efficiency, phasematch

J. Song, J. F. Xia, Z. Zhang, and D. Strickland, "Mid-infrared pulses generated from the mixing output of an amplified, dual-wavelength Ti:sapphire system," Opt. Lett. **27,** 200-202 (2002). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, two-photon absorption

A. Sugita, K. Yokoyama, H. Yamada, N. Inoue, M. Aoyama, and K. Yamakawa, "Generation of broadband mid-infrared pulses by noncollinear difference frequency mixing," Jap. J. Appl. Phys. **46,** 226-228 (2007). Keywords: bandwidth, difference-frequency, femtosecond

E. Takaoka and K. Kato, "Thermo-optic dispersion formula for $AgGaS_2$," Appl. Opt. **38,** 4577-4580 (1999). Keywords: phasematch, temperature-bandwidth, temperature tuning, transmission

D. Touahri, O. Acef, and J.-J. Zondy, "30-THz upconversion of an AlGaAs diode laser with $AgGaS_2$: bridging the several-teraherz frequency gap in the near infrared," Opt. Lett. **21,** 213 (1996). Keywords: phasematch, sum-frequency, efficiency

A. Vitcu, R. Ciurylo, R. Wehr, J. R. Drummond, and A. D. May, "High-resolution tunable mid-infrared spectrometer based on difference-frequency generation in $AgGaS_2$," Appl. Opt. **43,** 4965-4971 (2004). Keywords: cw, difference-frequency, efficiency, phasematch

K. L. Vodopyanov, J. P. Maffetone, I. Zwieback, and W. Ruderman, "$AgGaS_2$ optical parametric oscillator continuously tunable from 3.9 to 11.3 μm," Appl. Phys. Lett. **75,** 1204-1206 (1999). Keywords: crystal growth, damage, efficiency, OPO, phasematch

T.-J. Wang, Z.-H. Kang, H.-Z. Zhang, Q.-Y. He, Y. Qu, Z.-S. Feng, Y. M. Andreev, and G. V. Lanskii, "Wide-tunable, high-energy $AgGaS_2$ optical parametric oscillator," Opt. Exp. **14,** 13001-13006 (2006). Keywords: efficiency, nanosecond, OPO, phasematch

T. Witte, D. Zeidler, D. Proch, K. L. Kompa, and M. Motzkus, "Programmable amplitude- and phase-modulated femtosecond laser pulses in the mid-infrared," Opt. Lett. **27,** 131-133 (2002). Keywords: difference-frequency, efficiency, femtosecond

J. J. Zondy and D. Touahri, "Updated thermo-optic coefficients of $AgGaS_2$ from temperature-tuned noncritical $3\omega - \omega \rightarrow 2\omega$ infrared parametric amplification," J. Opt. Soc. Am. B **14,** 1331-1338 (1997). Keywords: dn/dT, difference-frequency, phasematch, temperature bandwidth, temperature tuning

J. J. Zondy, D. Touahri, and O. Acef, "Absolute value of the d_{36} nonlinear coefficient of $AgGaS_2$: prospect for a low-threshold doubly resonant oscillator-based 3:1 frequency divider," J. Opt. Soc. Am. B **14,** 2481-2497 (1997). Keywords: d_{ij} , difference frequency, efficiency, OPO, sum-frequency

J. J. Zondy, V. Vedenyapine, T. Kaing, D. Lee, A. Yelisseyev, I. Isaenko, and S. Lobanov, "Doppler spectroscopy of NH_3 and SF_6 in the 10-μm range with a tunable $AgGaS_2$ difference-frequency spectrometer," Appl. Phys. B (2004). Keywords: cw, difference-frequency, efficiency

$AgGaSe_2$:

K. S. Abedin, S. Haidar, Y. Konno, C. Takyu, and H. Ito, "Difference frequency generation of 5-18 μm in a $AgGaSe_2$ crystal," Appl. Opt. **37,** 1642-1646 (1998). Keywords: acceptance angle, phasematch

M. A. Acharekar, L. H. Morton, and E. W. Van Stryland, "2 μm laser damage and 3-6 μm optical parametric oscillation in $AgGaSe_2$," SPIE **2114,** 69-81 (1994). Keywords: bandwidth, crystal growth, damage, efficiency, nanosecond, OPO, phasematch

R. L. Aggarwal and T. Y. Fan, "Thermal diffusivity, specific heat, thermal conductivity, coefficient of thermal expansion, and refractive-index change with temperature in $AgGaSe_2$," Appl. Opt. **44,** 2673-2677 (2005). Keywords: thermal conductivity, thermal expansion, transmission

S. Banerjee, N. Umemura, and K. Kato, "Sellmeier and thermo-optic dispersion formulas for $AgGa(S_{1-x}Se_x)_2$ with application in mid-IR generation," SPIE **6103,** 610314 (2006). Keywords: phasematch, Sellmeier, temperature tuning

N. P. Barnes, D. J. Gettemy, J. R. Hietanen, and R. A. Iannini, "Parametric amplification in $AgGaSe_2$," Appl. Opt. **28,** 5162-5168 (1989). Keywords: transmission, dn/dT, d_{eff}

N. P. Barnes, K. E. Murray, M. G. Jani, and S. R. Harrell, "Diode-pumped Ho:Tm:YLF laser pumping an $AgGaSe_2$ parametric oscillator," J. Opt. Soc. Am. B **11,** 2422-2426 (1994). Keywords: OPO, efficiency, phasematching

N. P. Barnes, K. E. Murray, and G. H. Watson, "Injection-seeded optical parametric oscillator," OSA Proceedings on Advanced Solid-State Lasers, Vol. 13, 356-360 (1992). Keywords: OPO, efficiency, bandwidth

G. C. Bhar, S. Das, R. K. Route, and R. S. Feigelson, "Synchronous pulsed infrared detection in $AgGaSe_2$ crystal using 1.318 μm pump," Appl. Phys. B **65.** 471-473 (1997). Keywords: phasematch, sum-frequency

G. D. Boyd, H. M. Kasper, J. H. McFee, and F. G. Storz, "Linear and nonlinear optical properties of some Ternanry Selenides," IEEE J. Quant. Electron. **QE-8,** 900-908 (1972). Keywords: phasematch, transmission, d_{ij}

P. A. Budni, M. G. Knights, E. P. Chicklis, and K. L. Schepler, "Kilohertz $AgGaSe_2$ optical parametric oscillator pumped at 2 μm," Opt. Lett. **18,** 1068-1070 (1993). Keywords: OPO, efficiency, damage

G. C. Catella, L. R. Shiozawa, J. R. Hietanen, R. C. Eckardt, R. K. Route, R. S. Feigelson, D. G. Cooper, and C. L. Marquardt, "Mid-IR absorption in $AgGaSe_2$ optical parametric oscillator crystals," Appl. Opt. **32,** 3948-3951 (1993). Keywords: transmission

S. Chandra, T. H. Allik, G. Catella, R. Utano, and J. A. Hutchinson, "Continuously tunable 6-14 μm silver-gallium selenide optical paramteric oscillator pumped at 1.57 μm," Appl. Phys. Lett. **71,** 584-586 (1997). Keywords: efficiency, OPO

H. P. Chou, R. C. Slater, and Y. Wang, "High-energy, fourth-harmonic generation using CO_2 lasers," Appl. Phys. B **66,** 555-559 (1998). Keywords: efficiency, sum-frequency

M. M. Choy and R. L. Byer, "Accurate second-order susceptibility measurements of visible and infrared nonlinear crystals," Phys. Rev. B **14,** 1693-1706 (1976). Keywords: d_{ij}

M. Gerhards, "High energy and narrow bandwidth mid IR nanosecond laser system," Opt. Comm. **241,** 493-497 (2004). Keywords: difference-frequency, efficiency, nanosecond

V.A. Gorobets, V. O. Petukhov, S. Ya. Tochitskii, and V. V. Churakov, "Studies of nonlinear optical characteristics of IR crystals for frequency conversion of TEA-CO_2 laser radiation," J. Opt. Tech. **66,** 53-57 (1999). Keywords: damage, d_{eff}, efficiency, sum-frequency, transmission

S. Haidar and H. Ito, "Injection-seeded optical parametric oscillator for efficient difference frequency generation in mid-IR," Opt. Comm. **171,** 171-176 (1999). Keywords: difference frequency, efficiency, OPO

J. Henningsen and J. Hald, "Quantitative analysis of dilute mixtures of SO_2 in N_2 at 7.4 μm by difference frequency mixing," Appl. Phys. B **76,** 441-449 (2003). Keywords: bandwidth, cw, difference-frequency, efficiency, phasematch

H. Kildal and G. W. Iseler, "Laser-induced surface damage of infrared nonlinear materials," Appl. Opt. **15,** 3062-3065 (1976). Keywords: damage

H. Kildal and J. C. Mikkelsen, "The nonlinear optical coefficient, phasematching, and optical damage in the chalcopyrite $AgGaSe_2$," Opt. Comm. **9,** 315-318 (1973). Keywords: phasematch, transmission, d_{ij}, damage

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

C. L. Marquardt, D. G. Cooper, P. A. Budni, M. G. Knights, K. L. Schepler, R. DeDomenico, and G. C. Catella, "Thermal lensing in silver gallium selenide parametric oscillator crystals," Appl. Opt. **33,** 3192-3196 (1994). Keywords: transmission, dn/dT

S. Marzenell, R. Beigang, R. Wallenstein, "Synchronously pumped femtosecond optical parametric oscillator based on $AgGaSe_2$ tunable from 2 μm to 8 μm," Appl. Phys. B **69,** 423-428 (1999). Keywords: efficiency, femtosecond, n_2, OPO, phasematch, pump tuning, Sellmeier

S. Pearl, S. Fastig, Y. Ehrlich, and R. Lavi, "Limited efficiency of a silver selenogallate optical parametric oscillator caused by two-photon absorption," Appl. Opt. **40,** 2490-2492 (2001). Keywords: efficiency, OPO, two-photon absorption

K. P. Petrov, R. F. Curl, F. K. Tittel, and L. Goldberg, "Continuous-wave tunable 8.7-μm spectroscopic source pumped by fiber-coupled communications lasers," Opt. Lett. **21,** 1451-1453 (1996). Keywords: difference-frequency, efficiency

J. Raffy, T. Debuisschert, J.-P. Pocholle, and M. Papuchon, "Tunable IR laser source with optical parametric oscillators in series," Appl. Opt. **33,** 985-987. Keywords: OPO, efficiency

D. A. Roberts, "Dispersion equations for nonlinear optical crystals: KDP, $AgGaSe_2$, and $AgGaS_2$," Appl. Opt. **35,** 4677-4688. Keywords: Sellmeier

P. G. Schunemann, S. D. Setzler, and T. M. Pollak, "Phase-matched crystal growth of $AgGaSe_2$ and $AgGa_{1-x}In_xSe_2$," J. Cryst. Growth **211,** 257-264 (2000). Keywords: crystal growth, efficiency, phasematch, sum-frequency, thermal expansion, transmission

H.-w. Wang and M.-h. Lu, "A two-stage up-convertor made of $AgGaSe_2$ and β-BBO crystals," Appl. Phys. B **70,** 15-21 (2000). Keywords: OPA, Sellmeier, sum frequency

B.-j. Zhao, S.-f. Zhu, Y.-d. Li, F.-l. Yu, Q.-f. Li, Z.-h. Li, Z.-h. Zhu, S.-y. Shao, and J. Lin, "Improved growth of $AgGaSe_2$ crystals and phase matched second harmonic generation of 10.6 μm CO_2 laser radiation," Opt. Eng. **38,** 2129-2133 (1999). Keywords: acceptance angle, crystal growth, efficiency, phasematch, sum-frequency, transmission

B. C. Ziegler and K. L. Schepler, "Transmission and damage-threshold measurements in $AgGaSe_2$ at 2.1 μm," Appl. Opt. **30,** 5077-5080 (1991). Keywords: transmission, damage

J. J. Zondy, "Experimental investigation of single and twin $AgGaSe_2$ crystals for cw 10.2 μm SHG," Opt. Comm. **119,** 320-326 (1995). Keywords: damage, transmission, dn/dT

J.-J. Zondy, M. Abed, S. Khodja, C. Bonnin, B. Rainaud, H. Albrecht, and D. Lupinsky, "Walkoff-compensated type-I and type-II SHG using twin-crystal $AgGaSe_2$ devices," SPIE **2700,** 66 (1996). Keywords: acceptance angle, efficiency

$AgGa_{1-x}In_xS_2$:

S. Banerjee and K. Kato, "Noncritical phase-matched difference-frequency generation in $AgGa_{1-x}In_xS_2$," SPIE 6455, 645513-1-7 (2007). Keywords: acceptance angle, difference-frequency, efficiency, nanosecond, Sellmeier, transmission

S. Banerjee, K. Miyata, K. Kato, N. Saito, and S. Wada, "90° phase-matched parametric frequency conversion in $AgGa_{1-x}In_xS_2$," Appl. Phys. B (2007). Keywords: difference-frequency, phasematch, Sellmeier, transmission

$AgGa_xIn_{1-x}Se_2$:

G. C. Bahr, S. Das, D. V. Satyanarayan, P. K. Datta, U. Nundy, and Yu. N. Andreev, "Efficient generation of mid-infrared radiation in an $AgGa_xIn_{1-x}Se_2$ crystal," Opt. Lett. **20,** 2057-2059 (1995). Keywords: efficiency, SHG, d_{eff}

E. Takaoka and K. Kato, "90^o phase-matched third-harmonic generation of CO_2 laser frequencies in $AgGa_{1-x}In_xSe_2$," Opt. Lett. **24,** 902-904 (1999). Keywords: acceptance angle, bandwidth, compositional tuning, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning, transmission

$AgGaTe_2$:

M. C. Ohmer, J. T. Goldstein, D. E. Zelmon, A. W. Saxler, S. M. Hegde, J. D. Wolf, P. G. Schunemann, and T. M. Pollak, "Infrared properties of $AgGaTe_2$, a nonlinear optical chalcopyrite semiconductor," J. Appl. Phys. **86,** 94-99 (1999). Keywords: conductivity, crystal structure, d_{ij}, phasematch, Sellmeier, transmission

U. N. Roy, B. Mekonen, O. O. Adetunji, K. Chattopahhyay, F. Kochari, Y. Cui, A. Burger, and J. T. Goldstein, "Compositional variations and phase stability during horizontal Bridgman growth of $AgGaTe_2$ crystals," J. Cryst. Growth **241,** 135-140 (2002). Keywords: conductivity, crystal growth, transmission

P. G. Schunemann, S. D. Setzler, T. M. Pollak, M. C. Ohmer, J. T. Goldstein, and D. E. Zelmon, "Crystal growth and properties of $AgGaTe_2$," J. Cryst. Growth **211,** 242-246 (2000). Keywords: crystal growth, thermal expansion, transmission

Ag_2HgI_4:

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

$AgInSe_2$:

G. D. Boyd, H. M. Kasper, J. H. McFee, and F. G. Storz, "Linear and nonlinear optical properties of some Ternanry Selenides," IEEE J. Quant. Electron. **QE-8,** 900-908 (1972). Keywords: phasematch, transmission, d_{ij}

$C_2O_4(NH_4)_2 \bullet H_2O$ (Ammonium oxalate):

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

M. V. Hobden, "Phase-matched second-harmonic generation in biaxial crystals," J. Appl. Phys. **38,** 4365-4372. Keywords: phasematch

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

$BaAlBO_3F_2$ (BABF):

Z.-G. Hu, M. Yoshimura, K. Muramatsu, Y. Mori, and T. Sasaki, "A new nonlinear optical crystal-$BaAlBO_3F_2$(BABF)," Jpn. J. Appl. Phys. **41,** L1131-L1133 (2002). Keywords: crystal growth, crystal structure, d_{eff}, phasematch, Sellmeier, sum-frequency, transmission

M. Yoshimura, Y. Mori, Z. G. Hu, and T. Sasaki, "Growth and characterization of nonlinear optical borate crystals $CsLiB_6O_{10}$, CsB_3O_5, and $BaAlBO_3F_2$," Opt. Mater. **26,** 421-423 (2004). Keywords: crystal growth, d_{ij}, Sellmeier

$Ba_2NaNb_5O_{15}$:

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

β-BaB_2O_4 (BBO):

G. Anstett, G. Goritz, D. Kabs, R. Urschel, R. Wallenstein, and A. Borsutzky, "Reduction of the spectral width and beam divergence of a BBO-OPO by using collinear type-II phase matching and back reflection of the pump beam," Appl. Phys. B **72,** 583-589 (2001). Keywords: acceptance angle, bandwidth, efficiency, M^2, OPO, phasematch, walkoff angle

D. J. Armstrong, W. J. Alford, T. D. Raymond, and A. V. Smith, "Absolute measurement of the effective nonlinearities of KTP and BBO crystals by optical parametric amplification," Appl. Opt. **35,** 2032-2040 (1996). Keywords: d_{eff}, d_{ij}, difference-frequency

M. R. Armstrong, P. Plachta, E. A. Ponomarev, and R. J. D. Miller, "Versatile 7-fs optical parametric pulse generation and compression by use of adaptive optics," Opt. Lett. **26,** 1152-1154 (2001). Keywords: difference-frequency, efficiency, femtosecond

S. Ashihara, J. Nishina, T. Shimura, and K. Kuroda, "Soliton compression of femtosecond pulses in quadratic media," J. Opt. Soc. Am. B **19,** 2505-2510 (2002). Keywords: bandwidth, femtosecond, group velocity, n_2, sum-frequency

A. Baltuska, T. Fuji, and T. Kobayashi, "Visible pulse compression to 4 fs by optical parametric amplification and programmable dispersion control," Opt. Lett. **27,** 306-308 (2002). Keywords: bandwidth, chirped pulse amplification, difference-frequency, efficiency, femtosecond, phasematch

G. P. Banfi, V. Degiorgio, D. Fortusini, and M. Bellini, "Measurement of the two-photon absorption coefficient of semiconductor nanocrystals by using tunable femtosecond pulses," Opt. Lett. **21,** 1490-1492 (1996). Keywords: two-photon absorption

R. C. Bapna and K. Dasgupta, "Threshold reduction of a pulsed narrow-band β-Ba_2BO_4 optical parametric oscillator in a grazing-incidence configuration by injection of amplified spontaneous emission," Optics & Laser Tech. **33,** 125-127 (2001). Keywords: bandwidth, efficiency, OPO

P. Baum, E. Riedle, M. Greve, and H. R. Telle, "Phase-locked ultrashort pulse trains at separate and independently tunable wavelengths," Opt. Lett. **30,** 2028-2030 (2005). Keywords: bandwidth, femtosecond, OPA

G. C. Bhar, U. Chatterjee, and S. Das, "Tunable near-infrared radiation by difference frequency mixing in beta barium borate crystal," Appl. Phys. Lett. **58,** 231-233 (1991). Keywords: phasematch, transmission, difference-frequency

G. C. Bhar, U. Chatterjee, A. M. Rudra, and A. K. Chaudhury, "Dispersion-matched up-conversion of infrared radiation in a beta barium borate crystal," Quantum Elect. **27,** 44-48 (1997). Keywords: acceptance angle, acceptance bandwidth, sum-frequency mixing

G. C. Bhar, A. K. Chaudhary, P. Kumbhakar, A. M. Rudra, and S. C. Sabarwal, "A comparative study of laser-induced surface damage thresholds in BBO crystals and effect of impurities," Opt. Mater. **27,** 119-123 (2004). Keywords: damage, transmission

J. Biegert, "Bichromatic pulsed source in the visible and infrared," Appl. Phys. B **75,** 25-29 (2002). Keywords: bandwidth, efficiency, femtosecond, OPA, OPO, picosecond, sum-frequency

J. M. Boon-Engering, W. E. van der Veer, E. A. J. M. Bente, and W. Hogervorst, "Scanning and locking of a single longitudinal mode β-BaB_2O_4 OPO in a grazing incidence configuration," Opt. Comm. **136,** 261-266 (1997). Keywords: bandwidth, OPO

W. R. Bosenberg, L. K. Cheng, and C. L. Tang, "Ultraviolet optical parametric oscillation in β-BaB_2O_4," Appl. Phys. Lett. **54,** 13-15 (1989). Keywords: OPO, phasematch

W. R. Bosenberg, W. S. Pelouch, and C. L. Tang, "High-efficiency and narrow-linewidth operation of a wo-crystal β-BaB_2O_4 optical parametric oscillator," Appl. Phys. Lett. **55,** 1952-1954. Keywords: OPO, efficiency, bandwidth

R. Butkus, R. Danielius, A. Dubietis, A. Piskarskas, and A. Stabinis, "Progress in chirped pulse optical parametric amplifiers," Appl. Phys. B **79,** 693-700 (2004). Keywords: efficiency, femtosecond, group velocity, OPA

G. Cerullo, M. Nisoli, and S. De Silvestri, "Generation of 11 fs pulses tunable across the visible by optical parametric amplification," Appl. Phys. Lett. **71,** 3616-3619 (1997). Keywords: bandwidth, chirp, femtosecond, group velocity

G. Cerullo, M. Nisoli, S. Stagira, S. De Silvestri, "Sub-8-fs pulses from an ultrabroadband optical parametric amplifier in the visible," Opt. Lett. **23,** 1283-1285 (1998). Keywords: efficiency, femtosecond, group velocity, OPA

G. Cerullo, M. Nisoli, S. Stagira, S. De Silvestri, G. Tempea, F. Krausz, and K. Ferencz, "Mirror-dispersion-controlled OPA: a compact tool for sub-10-fs spectroscopy in the visible," Appl. Phys. B **70[Supp.],** S253-S259 (2000). Keywords: efficiency, femtosecond, group velocity, OPA

J. Collier, C. Hernandez-Gomez, I. N. Ross, P. Matousek, C. N. Danson, and J. Walczak, "Evaluation of an ultrabroadband high-gain amplification technique for chirped pulse amplification facilities," Appl. Opt. **38,** 7486-7493 (1999). Keywords: bandwidth, chirped pulse amplification, efficiency

M. Divall, K. Osvay, G. Kurdi, E. J. Divall, J. Klebniczki, J. Bohus, A. Peter, and K. Polgar, "Two-photon-absorption of frequency converter crystals at 248 nm," Appl. Phys. B (2005). Keywords: two-photon absorption

A. Dubietis, G. Valiulis, G. Tamosauskas, R. Danielius, and A. Piskarskas, "Nonlinear second-harmonic pulse compression with tilted pulses," Opt. Lett. **22,** 1071-1073 (1997). Keywords: bandwidth, femtosecond, group velocity

A. Dubietis, G. Tamosauskas, A. Varanavicius, and G. Valiulis, "Two-photon absorbing properties of ultraviolet phase-matched crystals at 264 and 211 nm," Appl. Opt. **39,** 2437-2440 (2000). Keywords: two-photon absorption

A. Dubietis, G. Tamosauskas, A. Varanavicius, G. Valiulis, and R. Danielius, "Highly efficient subpicosecond pulse generation at 211 nm," J. Opt. Soc. Am. B **17,** 48-52 (2000). Keywords: efficiency, femtosecond, group velocity, sum-frequency, two-photon absorption

A. Dubietis, G. Tamosauskas, A. Varanavicius, G. Valiulis, and R. Danielius, "Generation of femtosecond radiation at 211 nm by femtosecond pulse upconversion in the field of a picosecond pulse," Opt. Lett. **25,** 1116-1118 (2000). Keywords: efficiency, femtosecond, group velocity, picosecond, sum-frequency, two-photon absorption

M. Ebrahimzadeh, A. J. Henderson, and M. H. Dunn, "An excimer-pumped β-BaB_2O_4 optical parametric oscillator tunable from 354 nm to 2.370 μm," IEEE J. Quant. Electron. **QE-26,** 1241-1252 (1990). Keywords: OPO, phasematch, acceptance angle, bandwidth, efficiency

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, MgO:$LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

D. Eimerl, L. Davis, S. Velsko, E. K. Graham, and A. Zalkin, "Optical, mechanical, and thermal properties of barium borate," J. Appl. Phys. **62,** 1968-1983 (1987). Keywords: transmission, dn/dT, phasematch, acceptance angle, temperature-bandwidth, d_{ij}, thermal conductivity, thermal expansion

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature-bandwidth

R. J. Gehr, M. W. Kimmel, and A. V. Smith, "Simultaneous spatial and temporal walk-off compensation in frequency-doubling femtosecond pulses in β-BaB_2O_4," Opt. Lett. **23,** 1298-1301 (1998). Keywords: acceptance angle, bandwidth, efficiency, femtosecond, group velocity, phasematch, sum-frequency

L. Goldberg and D. A. V. Kliner, "Deep-uv generation by frequency quadrupling of a high-power GaAlAs semiconductor laser," Opt. Lett. **20,** 1145-1147 (1995). Keywords: efficiency, picosecond, sum-frequency

A. K. Goyal, J. D. Bhawalkar, Y. Conturie, P. Gavrilovic, Y. Mao, H. Po, and J. Guerra, "High beam quality of ultraviolet radiation generated through resonant enhanced frequency doubling of a diode laser," J. Opt. Soc. Am. B **16,** 2207-2216 (1999). Keywords: efficiency, sum-frequency

S.-D. Huang, C.-W. Hsu, D.-W. Huang, and C. C. Yang, "Retracing behaviors of the phase-matching angle in noncollinear phase-matched optical parametric oscillators," J. Opt. Soc. Am. B **15,** 1375-1380 (1998). Keywords: bandwidth, group velocity, OPO, phasematch

J. Y. Huang, J. Y. Zhang, Y. R. Shen, C. Chen, and B. Wu, "High-power, widely tunable, picosecond coherent source from optical parametric amplification in barium borate," Appl. Phys. Lett. **57,** 1961-1963. Keywords: phasematch, efficiency

N. Huot, C. Jonin, N. Sanner, E. Baubeau, E. Audouard, and P. Laporte, "High UV average power at 15 kHz by frequency doubling of a copper HyBrID vapor laser in ß-barium borate," Opt. Comm. **211,** 277-282 (2002). Keywords: efficiency, M^2, nanosecond, sum-frequency

L. I. Isaenko, A. Dragomir, J. G. McInerney, D. N. Nikogosyan, "Anisotropy of two-photon absorption in BBO at 264 nm," Opt. Comm. **198,** 433-438 (2001). Keywords: transmission, two-photon absorption

N. Ishii, L. Turi, V. S. Yakovlev, T. Fuji, F. Krausz, A. Baltuska, R. Butkus, G. Veitas, V. Smilgevicius, R. Danielius, and A. Piskarskas, "Multimillijoule chirped parametric amplification of few-cycle pulses," Opt. Lett. **30,** 567-569 (2005). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, OPA

S. Johansson, S. Bjurshagen, C. Canalias, V. Pasiskevicius, F. Laurell, and R. Koch, "An all solid-state uv source based on a frequency quadrupled, passively Q-switched 946 nm laser," Opt. Exp. **15,** 449-458 (2007). Keywords: efficiency, nanosecond, sum-frequency, temperature-bandwidth

I. Jovanovic, C. Brown, B. Wattellier, N. Nielsen, W. Molander, B. Stuart, D. Pennington, and C. P. J. Barty, "Precision short-pulse damage test station utilizing optical parametric chirped-pulse amplification," Rev. Sci. Inst. **75,** 5193-5202 (2004). Keywords: chirped pulse amplification, efficiency, femtosecond, M^2

I. Jovanovic, B. J. Comaskey, C. A. Ebbers, R. A. Bonner, D. M. Pennington, and E. C. Morse, "Optical parametric chirped-pulse amplifier as an alternative to Ti:sapphire regenerative amplifiers," Appl. Opt. **41,** 2923-2929 (2002). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, nanosecond, OPA

R. A. Kaindl, M. Wurm, K. Reimann, P. Hamm, A. M. Weiner, and M. Woerner, "Generation, shaping, and characterization of intense femtosecond pulses tunable from 3 to 20 μm," J. Opt. Soc. Am. B **17,** 2086-2094 (2000). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, group velocity, OPG, phasematch, sum-frequency

T. Kanai, X. Zhou, T. Liu, A. Kosuge, T. Sekikawa, and S. Watanabe, "Generation of terawatt 10-fs blue pulses by compensation for pulse-front distortion in broadband frequency doubling," Opt. Lett. **29,** 2929-2931 (2004). Keywords: efficiency, femtosecond, sum-frequency

T. Kanai, X. Zhou, T. Sekikawa, S. Watanabe, and T. Togashi, "Generation of subterawatt sub-10-fs blue pulses at 1-5 kHz by broadband frequency doubling," Opt. Lett. **28,** 1484-1486 (2003). Keywords: bandwidth, efficiency, femtosecond, sum-frequency

K. Kato, "Second-harmonic generation to 2048 Å in β-BaB_2O_4," IEEE J. Quant. Electron. **QE-22,** 1013-1014. Keywords: phasematch

T. Kellner, F. Heine, and G. Huber, "Efficient laser performance of Nd:YAG at 946 nm and intracavity frequency doubling of $LiIO_3$, β-BaB_2O_4, and LiB_3O_5," Appl. Phys. B **65,** 789-792 (1998). Keywords: acceptance angle, bandwidth, efficiency, walkoff angle

R. S. Klein, G. E. Kugel, A. Maillard, A. Sifi, and K. Polgar, "Absolute non-linear optical coefficients measurements of BBO single crystal and determination of angular acceptance by second harmonic generation," Opt. Mat. **22,** 163-169 (2003). Keywords: acceptance angle, cw, d_{eff}, d_{ij}, efficiency, sum-frequency

D. A. V. Kliner, F. Di Teodoro, J. P. Koplow, S. W. Moore, and A. V. Smith, "Efficient second, third, fourth, and fifth harmonic generation of a Yb-doped fiber amplifier," Opt. Comm. **210,** 393-398 (2002). Keywords: efficiency, nanosecond, sum-frequency

D. A. V. Kliner, J. P. Koplow, and L. Goldberg, "Narrow-band, tunable, semiconductor-laser-based source for deep-uv absorption spectroscopy," Opt. Lett. **22,** 1418-1420 (1997). Keywords: cw, efficiency, sum-frequency

T. Kobayashi and A. Shirakawa, "Tunable visible and near-infrared pulse generator in a 5 fs regime," Appl. Phys. B **70[Suppl.]** S239-S246 (2000). Keywords: bandwidth, chirp, chirped pulse amplification, difference-frequency, efficiency, femtosecond, group velocity, phasematch

K. Kondo, M. Oka, H. Wada, T. Fukui, N. Umezu, K. Tatsuki, and S. Kubota, "Demonstration of long-term reliability of a 266-nm, continuous-wave, frequency-quadrupled solid-state laser using β-BaB_2O_3," Opt. Lett. **23,** 195-197 (1998). Keywords: damage, efficiency, sum-frequency

J. P. Koplow, D. A. V. Kliner, and L. Goldberg, "Development of a narrow-band, tunable, frequency-quadrupled diode laser for uv absorption spectroscopy," Appl. Opt. **37,** 3954-3960 (1998). Keywords: efficiency, picosecond, sum-frequency

H. Kouta, "Wavelength dependence of repetitive-pulse laser-induced damage threshold in β-BaB_2O_4," Appl. Opt. **38,** 545-547 (1999). Keywords: damage

H. Kouta and Y. Kuwano, "Annealing to reduce scattering centers in Czochralski-grown β-BaB_2O_4," Appl. Opt. **38,** 1053-1057 (1999). Keywords: damage, transmission

H. Kouta and Y. Kuwano, "Attaining 186-nm light generation in cooled β-BaB_2O_4 crystal," Opt. Lett. **24,** 1230-1232 (1999). Keywords: efficiency, phasematch, sum-frequency, temperature tuning, transmission

I. Z. Kozma, P. Baum, S. Lochbrunner, and E. Reidle, "Widely tunable sub-30 fs ultraviolet pulses by chirped sum frequency mixing," Opt. Exp. **11,** 3110-3115 (2003). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, group velocity, OPA, sum-frequency

V. Krylov, J. Gallus, U. P. Wild, A. Kalintsev, and A. Rebane, "Femtosecond noncollinear and collinear parametric generation and amplification in BBO crystals," Appl. Phys. B **70,** 1630168 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPG, phasematch

V. Krylov, A. Kalintsev, A. Rebane, D. Erni, and U. P. Wild, "Noncollinear parametric generation in $LiIO_3$ and β-barium borate by frequency-doubled femtosecond Ti:sapphire laser pulses," Opt. Lett. **20,** 151-153, (1995). Keywords: efficiency, femtosecond, group velocity, phasematch

H. Kumagai, "Development of a continuous-wave deep-ultraviolet, and single-frequency coherent light source – challenges toward laser cooling of silicon," IEEE J. Sel. Topics Quant. Electron. **10,** 1252-1258 (2005). Keywords: cw, efficiency, sum-frequency

H. Kumagai, K. Midorikawa, T. Iwane, and M. Obara, "Efficient sum-frequency generation of continuous-wave single-frequency coherent light at 252 nm with dual wavelength enhancement," Opt. Lett. **28,** 1969-1971 (2003). Keywords: cw, efficiency, sum-frequency

H. Kumagai, "Fine frequency tuning in sum-frequency generation of continuous-wave single-frequency coherent light at 252 nm with dual-wavelength enhancement," Opt. Lett. **32,** 62-64 (2007). Keywords: efficiency, sum-frequency, temperature tuning

A. Kummrow, M. Wittmann, F. Tschirschwitz, G. Korn, and E. T. J. Nibbering, "Femtosecond ultraviolet pulses generated using noncollinear optical parametric amplification and sum frequency mixing," Appl. Phys. B **71,** 885-887 (2000). Keywords: bandwidth, chirp, efficiency, femtosecond, sum-frequency

G. Kurdi, K. Osvay, M. Csatart, I. N. Ross, and J. Klebniczki, "Optical parametric amplification of femtosecond ultraviolet laser pulses," IEEE J. Sel. Top. Quant. Electron. **10,** 1259-1267 (2004). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA, transmission, two-photon absorption

C.-K. Lee, J.-Y. Zhang, J. Y. J. Huang, and C.-L. Pan, "Theoretical and experimental studies of tunable ultraviolet-blue femtosecond pulses in a 405-nm pumped type I β-BaB_2O_4 noncollinear optical parametric amplifier and cascading sum-frequency generation," J. Opt. Soc. Am. B **21,** 1494-1499 (2004). Keywords: efficiency, femtosecond, OPA, sum-frequency

S-W. Lee, S-H. Kim, D-K. Ko, J-M. Han, and J. Lee, "High-efficiency and low-threshold operation of the pump reflection configuration in the noncollinear phase matching optical parametric oscillator," Opt. Comm. **144,** 241-244 (1997). Keywords: efficiency, OPO, walkoff angle.

H. P. Li, C. H. Kam, Y. L. Lam, and W. Ji, "Femtosecond Z-scan measurements of nonlinear refraction in nonlinear optical crystals," Opt. Mat. **15,** 237-242 (2001). Keywords: femtosecond, n_2, two-photon absorption

J. T. Lin, "Recent advances of nonlinear crystals for frequency converters," SPIE **1104,** 23-32 (1989). Keywords: phasematch, d_{eff}, walkoff, temperature bandwidth, acceptance angle

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

D. N. Madsen, P. Yu, S. Balslev, and J. W. Thomsen, "Generation of 99-mW continuous-wave 285-nm radiation for magneto-optical trapping of Mg atoms," Appl. Phys. B **75,** 835-839 (2002). Keywords: cw, d_{eff}, efficiency, sum-frequency

C. Manzoni, G. Cerullo, and S. De Silvestri, "Ultrabroadband self-phase-stabilized pulses by difference-frequency generation," Opt. Lett. **29,** 2668-2670 (2004). Keywords: difference-frequency, efficiency, femtosecond

K. Matsubara, U. Tanaka, H. Imajo, M. Watanabe, and S. Urabe, "All-solid-state light source for generation of tunable continuous-wave coherent radiation near 202 nm," J. Opt. Soc. Am. B **16,** 1668-1671 (1999). Keywords: efficiency, phasematch, sum-frequency

J. Mes, W. Hogervorst, and V. Tugbaev, "Travelling-wave nanosecond optical parametric oscillator close to the Fourier-transform limit," Opt. Comm. **196,** 229-235 (2001). Keywords: bandwidth, efficiency, OPO

J. Mes, M. Leblans, and W. Hogervorst, "Single-longitudinal-mode optical parametric oscillator for spectroscopic applications," Opt. Lett. **27,** 1442-1444 (2002). Keywords: efficiency, OPO, sum-frequency

Z. Min, R. W. Quandt, R. Bersohn, and H. L. Kim, "Extended range of second harmonic generation in β-BaB_2O_4," IEEE J. Quant. Electron. **34,** 2409 (1998). Keywords: phasematch

K. Miyazaki, H. Sakai, and T. Sato, "Efficient deep-ultraviolet generation by frequency doubling in β-BaB_2O_4 crystals," Opt. Lett. **11,** 797-799 (1986). Keywords: efficiency, phasematch

A. K. Mohamed, A. Mustellier, J.-P. Faleni, and E. Rosencher, "Tunable ultraviolet intracavity tripled Ti:sapphire laser," Opt. Lett. **27,** 1457-1459 (2002). Keywords: bandwidth, efficiency, nanosecond, sum-frequency

A. Nebel and R. Beigang, "External frequency conversion of cw mode-locked Ti:Al_2O_3 laser radiation," Opt. Lett. **16,** 1729-1731 (1991). Keywords: efficiency, group velocity

T. Nishimura, K. Toyoda, M. Watanabe, and S. Urabe, "A compact 209-nm deep UV cw light source for spectroscopy using frequency doubling of a diode laser," Jpn. J. Appl. Phys. **42,** 5079-5081 (2003). Keywords: cw, efficiency, sum-frequency

A. L. Oien, I. T. McKinnie, P. Jain, N. A. Russell, D. M. Warrington, and L. A. W. Gloster, "Efficient, low-threshold collinear and noncollinear β-barium borate optical parametric oscillators," Opt. Lett. **22,** 859-861 (1997). Keywords: efficiency, OPO, phasematch

B. J. Orr, M. J. Johnson, and J. G. Haub, "Spectroscopic applications of pulsed tunable optical parametric oscillators," Tunable Laser Applications, ed. F. J. Duarte, Marcel Dekker. Keywords: OPO, efficiency, sum-frequency

K. Osvay, G. Kurdi, J. Klebniczki, M. Csatari, and I. N. Ross, "Demonstration of high gain amplification of femtosecond ultraviolet laser pulses," Appl. Phys. Lett. **80,** 1704-1706 (2002). Keywords: bandwidth, chirped pulse amplification, difference-frequency, efficiency, femtosecond, phasematch, two-photon absorption, walkoff angle

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

J. Piel, M. Beutter, and E. Riedle, "20-5-fs pulses tunable across the near infrared from a blue-pumped noncollinear parametric amplifier," Opt. Lett. **25,** 180-182 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA

E. O. Potma, W. P. de Boeij, M. S. Pshenichnikov, and D. A. Wiersma, "30-fs, cavity-dumped optical parametric oscillator," Opt. Lett. **23,** 1763-1765 (1998). Keywords: efficiency, femtosecond, OPO

R. B. Proctor, J. L. Machol, and F. W. Wise, "Tunable ultraviolet femtosecond pulses at kilohertz repetition rates," Appl. Opt. **31,** 836-839 (1992). Keywords: group velocity, femtosecond

S. J. Rehse and S. A. Lee, "Generation of 125 mW frequency stabilized continuous-wave tunable laser light at 295 nm by frequency doubling in a BBO crystal," Opt. Comm. **213,** 347-350 (2002). Keywords: cw, d_{eff}, efficiency, sum-frequency

E. Riedle, M. Beutter, S. Lochbrunner, J. Piel, S. Schenkl, S. Sporlein, and W. Zinth, "Generation of 10 to 50 fs pulses tunable through all of the visible and the NIR," Appl. Phys. B **71** 457-465 (2000). Keywords: bandwidth, chirp, chirped pulse amplification, difference-frequency, efficiency, femtosecond, group velocity, phasematch

J. Ringling, O. Kittelmann, F. Noack, G. Korn, and J. Squier, "Tunable femtosecond pulses in the near vacuum ultraviolet generated by frequency conversion of amplified Ti:sapphire laser pulses," Opt. Lett. **18,** 2035-2037 (1993). Keywords: sum-frequency, femtosecond, efficiency

U. Roth, M. Trobs, T. Graf, J. E. Balmer, and H. P. Weber, "Proton and gamma radiation tests on nonlinear crystals," Appl. Opt. **41,** 464-469 (2002). Keywords: damage, efficiency, picosecond, sum-frequency, transmission

M. Scheid, F. Markert, J. Walz, J. Wang, M. Kirchner, and T. W. Hansch, "750 mW continuous-wave solid-state deep ultraviolet laser source at the 253.7 nm transition in mercury," Opt. Lett. **32,** 955-957 (2007). Keywords: cw, efficiency, sum-frequency

B. Scherrer, I. Ribet, A. Godard, E. Rosencher, and M. Lefebvre, "Dual-cavity doubly resonant optical parametric oscillators: demonstration of pulsed single-mode operation," J. Opt. Soc. Am. B **17,** 1716-1729 (2000). Keywords: bandwidth, efficiency, OPO

P. Schlup, J. Biegert, C. P. Hauri, G. Arisholm, and U. Keller, "Design of a sub-13-fs, multi-gigawatt chirped pulse optical parametric amplification system," Appl. Phys. B (2004). Keywords: chirped pulse amplification, efficiency, femtosecond, OPA

M. Sheik-Bahae and M. Ebrahimzadeh, "Measurements of nonlinear refraction in the second-order $\chi^{(2)}$ materials $KTiOPO_4$, $KNbO_3$, β-BaB_2O_4, and LiB_3O_5," Opt. Comm. **142,** 294-298 (1997). Keywords: n_2

A. Shirakawa and T. Kobayashi, "Noncollinearly phase-matched femtosecond optical parametric amplification with a 2000 cm^{-1} bandwidth," Appl. Phys. Lett. **72,** 147-149 (1998). Keywords: bandwidth, femtosecond, group velocity, phasematch

A. Shirakawa, I. Sakane, M. Takasaka, T. Kobayashi, "Sub-5-fs visible pulse generation by pulse-front-matched noncollinear optical parametric amplification," Appl. Phys. Lett. **74,** 2268-2270 (1999). Keywords: bandwidth, chirp, efficiency, femtosecond, group velocity

I. Shoji, H. Nakamura, K. Ohdiara, T. Kondo, R. Ito, T. Okamoto, K. Tatsuki, and S. Kubota, "Absolute measurement of second-order nonlinear-optical coefficients of β-BaB_2O_4 for visible to ultraviolet second-harmonic wavelengths," J. Opt. Soc. Am. B **16,** 620-624 (1999). Keywords: d_{ij}

Y. Stepanenko and C. Radzewicz, "High-gain multipass noncollinear optical parametric chirped pulse amplifier," Appl. Phys. Lett. **86,** 211120-1-3 (2005). Keywords: bandwidth, chirped pulse amplification, efficiency, nanosecond, OPA

H. Tan, G. P. Banfi, and A. Tomaselli, "Optical frequency mixing through cascaded second-order processes in β-barium borate," Appl. Phys. Lett. **63,** 2472-2474 (1993). Keywords: n_2

C. Y. Teisset, N. Ishii, T. Fuji, T. Metzger, S. Kohler, R. Holzwarth, A. Baltuska, A. M. Zheltikov, and F. Krausz, "Soliton-based pump-seed synchronization for few-cycle OPCPA," Opt. Exp. **22,** 6550-6557 (2005). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond

R. L. Trickett, M. J. Withford, and D. J. Brown, "4.7-W, 255-nm source based on second-harmonic generation of a copper-vapor laser in cesium lithium borate," Opt. Lett. **23,** 189-191 (1998). Keywords: efficiency, sum-frequency

P. Tzankov, I. Buchvarov, and T. Fiebig, "Broadband optical parametric amplification in the near UV-VIS," Opt. Comm. **203,** 107-113 (2002). Keywords: bandwidth, femtosecond, OPA, phasematch

P. Tzankov, T. Fiebig, and I. Buchvarov, "Tunable femtosecond pulses in the near-ultraviolet from ultrabroadband parametric amplification," Appl. Phys. Lett. **82,** 517-519 (2003). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA

P. Tzankov, J. Zheng, M. Mero, D. Polli, C. Manzoni, and G. Cerullo, "300 μJ noncollinear optical parametric amplifier in the visible at 1 kHz repetition rate," Opt. Lett. **31,** 3629-3631 (2006). Keywords: bandwidth, efficiency, femtosecond, OPA

S. Y. Uesugi, Y. Mizutani, and T. Kitagawa, "Developments of widely tunable light sources for picosecond time-resolved resonance Raman spectroscopy," Rev. Sci. Inst. **68,** 4001-4008 (1997). Keywords: bandwidth, difference-frequency, efficiency, group velocity, phasematch, picosecond

R. Urschel, U. Bader, A. Borsutzky, and R. Wallenstein, "Spectral properties and conversion efficiency of 355-nm-pumped pulsed optical parametric oscillators of β-barium borate with noncollinear phase matching," J. Opt. Soc. Am. B **16,** 565-579 (1999). Keywords: efficiency, OPO, phasematch

H. Wang, H. Liu, X. Li, and W. Zhao, "Non-collinear CPOPA seeded by an Yb^{3+}-doped self-starting passive mode-locked fiber laser," Opt. Exp. **15,** 4493-4498 (2007). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond

H.-w. Wang and M.-h. Lu, "A two-stage up-convertor made of $AgGaSe_2$ and β-BBO crystals," Appl. Phys. B **70,** 15-21 (2000). Keywords: OPA, Sellmeier, sum frequency

M. Watanabe, K. Hayasaka, H. Imajo, J. Umezu, and S. Urabe, "Generation of continuous-wave coherent radiation tunable down to 190.8 nm in β-BaB_2O_4," Appl. Phys. B. **53,** 11-13 (1991). Keywords: efficiency, phasematch, sum-frequency

T. Wilhelm, J. Piel, and E. Riedle, "Sub-20-fs pulses tunable across the visible from a blue-pumped single-pass noncollinear parametric converter," Opt. Lett. **22,** 1494-1496 (1997). Keywords: femtosecond, group velocity, walkoff angle

K. S. Wong, Z. R. Qui, H. Wang, and G. K. L. Wong, "Efficient visible femtosecond optical parametric generator and amplifier using tilted pulse-front pumping," Opt. Lett. **22,** 898-900 (1997). Keywords: efficiency, femtosecond, group velocity

S. Wu, V. A. Kapinus, and G. A. Blake, "A nanosecond optical parametric generator/amplifier seeded by an external cavity diode laser," Opt. Comm. **159,** 74-79 (1999). Keywords: bandwidth, efficiency, OPG

K. Yamakawa, M. Aoyama, Y. Akahane, K. Ogawa, K. Tsuji, A. Sugiyama, T. Harimoto, J. Kawanaka, H. Nishioka, and M. Fujita, "Ultra-broadband optical parametric chirped-pulse amplification using an

Yb:$LiYF_4$ chirped pulse amplification pump laser," Opt. Exp. **15,** 5018-5023 (2007). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, "Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction," Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

H. Yoshida, E. Ishii, R. Kodama, H. Fujita, Y. Kitagawa, Y. Izawa, and T. Yamanaka, "High-power and high-contrast optical parametric chirped pulse amplification in ß-BaB_2O_4 crystal," Opt. Lett. **28,** 257-259 (2003). Keywords: bandwidth, chirped pulse amplification, efficiency, nanosecond, OPA

D. Zeidler, T. Hornung, D. Proch, and M. Motzkus, "Adaptive compression of tunable pulses from a non-collinear-type OPA to below 16 fs by feedback-controlled pulse shaping," Appl. Phys. B **70[Suppl.]** S125-S131 (2000). Keywords: bandwidth, chirp, chirped pulse amplification, difference-frequency, efficiency, femtosecond, group velocity, phasematch

H. Zeng, K. Wu, H. Xu, and J. Wu, "Seeded amplification of colored conical emission via spatiotemporal modulational instability," Appl. Phys. Lett. **87,** 061102-1-3 (2005). Keywords: efficiency, femtosecond, OPA

D. Zhang, Y. Kong, J. Zhang, "Optical parametric properties of 532-nm-pumped beta-barium-borate near the infrared absorption edge," Opt. Comm. **184,** 485-491 (2000). Keywords: OPG, phasematch, Sellmeier

$BaBPO_5$ (BBPO):

S. Pan, Y. Wu, P. Fu, X. Wang, G. Zhang, and C. Chen, "Optical properties of $BaBPO_5$ crystals," J. Opt. Soc. Am. B **21,** 761-764 (2004). Keywords: crystal growth, crystal structure, d_{ij}, phasematch, Sellmeier, transmission

$BaMgF_4$ (BMF):

S. C. Buchter, T. Y. Fan, V. Liberman, J. J. Zayhowski, M. Rothschild, E. J. Mason, A. Cassanho, H. P. Jenssen, and J. H. Burnett, "Periodically poled $BaMgF_4$ for ultraviolet frequency generation," Opt. Lett. **26,** 1693-1695 (2001). Keywords: crystal growth, ferroelectric poling, quasiphasematch, Sellmeier, temperature tuning, transmission

$Ba_2TiGe_2O_8$ (BTG):

Y. Takahashi, Y. Benino, T. Fujiwara, and T. Komatsu, "Second-order optical nonlinearity of $LaBGeO_5$, $LiBGeO_4$, and $Ba_2TiGe_2O_8$ crystals in corresponding crystallized glasses," Jpn. J. Appl. Phys. **41,** L1455-L1458 (2002). Keywords: crystal growth, d_{ijk}, transmission

N-Benzyl-2-methyl-4-nitroaniline (BNA):

M. Fujiwara, M. Maruyama, M. Sugisaki, H. Takahashi, S. Aoshima, R. J. Cogdell, and H. Hashimoto, "Determination of the d-tensor components of a single crystal of N-benzyl-2-methyl-4-nitroaniline," Jap. J. Appl. Phys. **46,** 1528-1530 (2007). Keywords: d_{ij}, phasematch, Sellmeier, transmission

BiB_3O_6 (BIBO):

P. Becker, J. Liebertz, and L. Bohaty, "Top-seeded growth of bismuth triborate, BiB_3O_6," J. Cryst. Growth **203,** 149-155 (1999). Keywords: crystal growth, crystal structure, transmission

Y. Bi, H.-B. Zhang, Z.-P. Sun, Z.-R.-G.-T. Bao, H.-Q. Li, Y.-P. Kong, X.-C. Lin, G.-L. Wang, J. Zhang, W. Hou, R.-N. Li, D.-F. Cui, Z.-Y. Xu, L.-W. Song, P. Zhang, J.-F. Cui, and Z.-W. Fan, "High-power blue light generation by external frequency doubling of an optical parametric oscillator," Chin. Phys. Lett. **20,** 1957-1959 (2003). Keywords: efficiency, nanosecond, OPO, phasematch, sum-frequency

C. Czeranowsky, E. Heumann, and G. Huber, "All-solid-state continuous-wave frequency-doubled Nd:YAG-BiBO laser with 2.8-W output power at 473 nm," Opt. Lett. **28,** 432-434 (2003). Keywords: cw, damage, efficiency, sum-frequency

C. Du, S. Ruan, Y. Yu, and Z. Wang, "High-power intracavity second-harmonic generation of 1.34 μm in BiB_3O_6," Opt. Exp. **13,** 8591-8595 (2005). Keywords: efficiency, phasematch, sum-frequency

C. Du, B. Teng, Z. Wang, J. Liu, X. Xu, G. Xu, K. Fu, J. Wang, Y. Liu, and Z. Shao, "Actively Q-switched intracavity second-harmonic generation of 1.06 μm in BiB_3O_6 crystal," Opt. and Laser Tech. **34,** 343-346 (2002). Keywords: efficiency, nanosecond, phasematch, sum-frequency, temperature-bandwidth

C. Du, Z. Wang, J. Liu, X. Xu, B. Teng, K. Fu, J. Wang, Y. Liu, Z. Shao, "Efficient intracavity second-harmonic generation at 1.06 μm in a BiB_3O_6 (BIBO) crystal," Appl. Phys. B **73,** 215-217 (2001). Keywords: d_{eff}, efficiency, sum-frequency

M. Ghotbi and M. Ebrahim-Zadeh, "Optical second harmonic generation properties of BiB_3O_6," Opt. Exp. **12,** 6002-6019 (2004). Keywords: acceptance angle, bandwidth, efficiency, femtosecond, sum-frequency

M. Ghotbi and M. Ebrahim-Zadeh, "990 mW average power, 52% efficient, high-repetition-rate picosecond-pulse generation in the blue with BiB_3O_6," Opt. Lett. **30,** 3395-3397 (2005). Keywords: d_{eff}, efficiency, picosecond, sum-frequency

M. Ghotbi, M. Ebrahim-Zadeh, A. Majchrowski, E. Michalski, and I. V. Kityk, "High-average-power femtosecond pulse generation in the blue using BiB_3O_6," Opt. Lett. **29,** 2530-2532 (2004). Keywords: acceptance angle, efficiency, femtosecond, phasematch, sum-frequency

M. Ghotbi, M. Ebrahim-Zadeh, V. Petrov, P. Tzankov, and F. Noack, "Efficient 1 kHz femtosecond optical parametric amplification in BiB_3O_6 pumped at 800 nm," Opt. Exp. **14,** 10621-10626 (2006). Keywords: efficiency, femtosecond, group velocity, OPA, transmission

M. Ghotbi, A. Esteban-Martin, and M. Ebrahim-Zadeh, "BiB_3O_6 femtosecond optical parametric oscillator," Opt. Lett. **31,** 3128-3120 (2006). Keywords: bandwidth, efficiency, femtosecond, OPO, phasematch

T. Harimoto, Y. Takeuchi, and M. Fujita, "Spectral properties of second-harmonic generation at 800 nm in a BiB_3O_6 crystal," Opt. Exp. **12,** 811-816 (2004). Keywords: efficiency, femtosecond, sum-frequency

R. Hartke, E. Heumann, G. Huber, M. Kuhnelt, and U. Steegmuller, "Efficient green generation by intracavity frequency doubling of an optically pumped semiconductor disk laser," Appl. Phys. B (2007). Keywords: bandwidth, cw, efficiency, sum-frequency

H. Hellwig, J. Liebertz, and L. Bohaty, "Exceptional large nonlinear optical coefficients in the monoclinic bismuth borate BiB_3O_6 (BIBO)," Solid State Comm. **109,** 249-251 (1999). Keywords: crystal growth, crystal structure, d_{ij}, phasematch

H. Hellwig, J. Liebertz, and L. Bohaty, "Linear optical properties of the monoclinic bismuth borate BiB_3O_6," J. Appl. Phys. **88,** 240-244 (2000). Keywords: d_{eff}, phasematch, Sellmeier, transmission

S. Johansson, S. Bjurshagen, C. Canalias, V. Pasiskevicius, F. Laurell, and R. Koch, "An all solid-state uv source based on a frequency quadrupled, passively Q-switched 946 nm laser," Opt. Exp. **15,** 449-458 (2007). Keywords: efficiency, nanosecond, sum-frequency, temperature-bandwidth

M. Peltz, J. Bartschke, A. Borsutzky, R. Wallenstein, S. Vernay, T. Salva, and D. Rytz, "Bismuth triborate (BiB_3O_6) optical parametric oscillators," Appl. Phys. B **80,** 55-60 (2005). Keywords: bandwidth, efficiency, nanosecond, OPO, phasematch

M. Peltz, J. Bartschke, A. Borsutzky, R. Wallenstein, S. Vernay, T. Salva, and D. Rytz, "Harmonic generation in bismuth triborate (BiB_3O_6)," Appl. Phys. B **81,** 487-495 (2005). Keywords: acceptance angle, bandwidth, d_{eff}, efficiency, nanosecond, phasematch, sum-frequency, temperature-bandwidth, temperature tuning, walkoff angle

V. Petrov, F. Noack, P. Tzankov, M. Ghotbi, M. Ebrahim-Zadeh, I. Nikolov, and I. Buchvarov, "High-power femtosecond optical parametric amplification at 1 kHz in BiB_3O_6 pumped at 800 nm," Opt. Exp. **15,** 556-563 (2007). Keywords: chirped pulse amplification, efficiency, femtosecond, group velocity, OPA, phasematch

V. Ruseva and J. Hald, "Generation of UV light by frequency doubling in BiBO," Opt. Comm. **236,** 219-223 (2004). Keywords: cw, damage, d_{eff}, efficiency, sum-frequency

Z. Sun, M. Ghotbi, and M. Ebrahim-Zadeh, "Widely tunable picosecond optical parametric generation and amplification in BiB_3O_6," Opt. Exp. **15,** 4139-4148 (2007). Keywords: efficiency, OPA, OPG, phasematch, picosecond, sum-frequency, temperature tuning, two-photon absorption

B. Teng, J. Wang, Z. Wang, H. Jiang, X. Hu, R. Song, H. Liu, Y. Liu, J. Wei, and Z. Shao, "Growth and investigation of a new nonlinear optical crystal: bismuth borate BiB_3O_6," J. Crystal Growth **224,** 280-283 (2001). Keywords: crystal growth, crystal structure, damage, efficiency, phasematch, picosecond, sum-frequency, transmission

B. Teng, J. Wang, Z. Wang, X. Hu, H. Jiang, H. Liu, X. Cheng, S. Dong, Y. Liu, Z. Shao, "Crystal growth, thermal and optical performance of BiB_3O_6," J. Cryst. Growth **233,** 282-286 (2001). Keywords: crystal growth, efficiency, sum-frequency, thermal expansion, transmission

P. Tzankov and V. Petrov, "Effective second-order nonlinearity in acentric optical crystals with low symmetry," Appl. Opt. **44,** 6971-6985 (2005). Keywords: d_{ij}

Z. Wang, B. Teng, K. Fu, X. Xu, R. Song, C. Du, H. Jiang, J. Wang, Y. Liu, and Z. Shao, "Efficient second harmonic generation of pulsed laser radiation in BiB_3O_6 (BIBO) crystal with different phase matching directions," Opt. Comm. **202,** 217-220 (2002). Keywords: crystal growth, efficiency, sum-frequency, transmission

Z. Wang, G. Xu, J. Liu, D. Hu, X. Xu, J. Wang, and Z. Shao, "Noncollinear second-harmonic generation in BiB_3O_6," J. Opt. Soc. Am. B **21,** 1348-1353 (2004). Keywords: efficiency, phasematch, picosecond, sum-frequency

Q. Zheng and L. Zhao, "Efficient blue laser generation at 473 nm by a BIBO crystal," Opt. & Laser Tech. **36,** 449-451 (2004). Keywords: cw, efficiency, sum-frequency

CNO ($Ca_2Nb_2O_7$):

X. Long and X. Han, "Growth of nonlinear optical calcium pyroniobate crystal," J. Cryst. Growth **275,** 492-495 (2005). Keywords: crystal growth, transmission

$Ca_2Ga_2SiO_7$:

Z. Burshtein, Y. Shimony, I. Levy, A. M. Lejus, J. M. Benitez, and F. Mougel, "Refractive-index studies in $Ca_2Ga_2SiO_7$ and $SrLaGa_3O_7$ melilite-type compounds," J. Opt. Soc. Am. B **13,** 1941 (1996). Keywords: n(T), Sellmeier

$CdHg(SCN)_4$ cadmium mercury thiocyanate (CMTC):

C. Q. Wang, Y. T. Chow, D. R. Yuan, D. Xu, G. H. Zhang, M. G. Liu, J. R. Lu, Z. S. Shao, and M. H. Jiang, "CW dual-wavelength Nd:YAG laser at 946 and 938.5 nm and intracavity nonlinear frequency conversion with a CMTC crystal," Opt. Comm. **165,** 231-235 (1999). Keywords: efficiency, phasematch, sum-frequency

D. Yuan, D. Xu, M. Liu, F. Qi, W. Yu, W. Hou, Y. Bing, S. Sun, and M. Jiang, "Structure and properties of a complex crystal for laser diode frequency doubling: Cadmium mercury thiocyanate," Appl. Phys. Lett. **70,** 544-546 (1997). Keywords: efficiency, phasematch, Sellmeier, sum-frequency, transmission

CDA:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

CD^*A:

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

$CdGeAs_2$ (CGA):

G. Ghosh, "Coefficients of a dispersion equation for the birefringence of a $CdGeAs_2$ nonlinear crystal at different temperatures," Appl. Opt. **37,** 6456-6458 (1998). Keywords: temperature tuning

H. Kildal and G. W. Iseler, "Laser-induced surface damage of infrared nonlinear materials," Appl. Opt. **15,** 3062-3065 (1976). Keywords: damage

P. G. Schunemann and T. M. Pollak, "Single crystal growth of large, crack-free $CdGeAs_2$," J. Crystal Growth **174,** 272-277 (1997). Keywords: crystal growth, efficiency, sum-frequency, transmission

P. G. Schunemann, S. D. Setzler, and T. M. Pollak, "Crystal growth of low-loss $CdGeAs_2$," OSA TOPS **50,** 632-634 (2001). Keywords: crystal growth, efficiency, sum-frequency, transmission

P. G. Schunemann, S. D. Setzler, T. M. Pollak, A. J. Ptak, and T. H. Myers, "Defect segregation in $CdGeAs_2$," J. Crystal Growth **225,** 440-444 (2001). Keywords: crystal growth, transmission

K. L. Vodopyanov, G. M. H. Knippels, A. F. G. van der Meer, J. P. Maffetone, and I. Zwieback, "Optical parametric generation in CGA crystal," Opt. Comm. **202,** 205-208 (2002). Keywords: efficiency, OPG, phasematch, picosecond, Sellmeier, sum-frequency, transmission

K. L. Vodopyanov, S. B. Mirov, V. G. Voevodin, and P. G. Schunemann, "Two-photon absorption in GaSe and $CdGeAs_2$," Opt. Comm. **155,** 47-50 (1998). K. L. Vodopyanov and L. A. Kulevskii, "New dispersion relationships for GaSe in the 0.65 - 18 μm spectral region," Opt. Comm. **118,** 375-378 (1995). Keywords: damage, two-photon absorption

K. L. Vodopyanov and P. G. Schunemann, "Efficient difference-frequency generation of 7-20 μm radiation in $CdGeAs_2$," Opt. Lett. **23,** 1096-1098 (1998). Keywords: difference-frequency, efficiency, phasematch, picosecond, Sellmeier, transmission

A. Zakel, J. L. Blackshire, P. G. Schunemann, S. D. Setzler, J. Goldstein, and S. Guha, "Temperature and pulse-duration dependence of second-harmonic generation in $CdGeAs_2$," Appl. Opt. **41,** 2299-2303 (2002). Keywords: damage, efficiency, M^2, nanosecond, sum-frequency, transmission, two-photon absorption

$CdGeP_2$ (CGP):

G. C. Bhar and G. Ghosh, "Temperature-dependent Sellmeier coefficients and coherence lengths for some chalcopyrite crystals," J. Opt. Soc. Am. **69,** 730-733 (1979). Keywords: dn/dT

CdS:

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

K. H. Yang, J. R. Morris, P. L. Richards, and Y. R. Shen, "Phase-matched far-infrared generation by optical mixing of dye laser beams," Appl. Phys. Lett. **23,** 669-671 (1973). Keywords: difference-frequency, efficiency

CdSe:

T. H. Allik, S. Chandra, D. M. Rines, P. G. Schunemann, J. A. Hutchinson, and R. Utano, "Tunable 7-12 μm optical parametric oscillator using a Cr,Er:YSGG laser to pump CdSe and $ZnGeP_2$ crystals," Opt. Lett. **22,** 597-599 (1997). Keywords: damage, efficiency, OPO, transmission.

G. C. Bhar, D. C. Hanna, B. Luther-Davies, and R. C. Smith, "Tunable down-conversion from an optical paramteric oscillator," Opt. Comm. **6,** 323-326 (1972). Keywords: OPO, phasematch, Sellmeier

M. M. Choy and R. L. Byer, "Accurate second-order susceptibility measurements of visible and infrared nonlinear crystals," Phys. Rev. B **14,** 1693-1706 (1976). Keywords: d_{ij}

A. Dhirani and P. Guyot-Sionnest, "Efficient generation of infrared picosecond pulses from 10 to 20 μm," Opt. Lett. **20,** 1104-1106 (1995). Keywords: difference frequency, efficiency, picosecond, two-photon absorption

K. Finsterbusch, A. Bayer, and H. Zacharias, "Tunable, narrow-band picosecond radiation in the mid-infrared by difference frequency mixing in GaSe and CdSe," Appl. Phys. B **79,** 457-462 (2004). Keywords: difference-frequency, efficiency, picosecond

K. Finsterbusch, R. Urschel, and H. Zacharias, "Fourier-transform-limited, high-power picosecond optical parametric oscillator based on periodically poled lithium niobate," Appl. Phys. B **70,** 741-746 (2000). Keywords: difference frequency, efficiency, phasematch, picosecond

A. Gaur, D. K. Sharma, D. S. Ahlawat, and N. Singh, "Multiphoton photoconductivity and optical nonlinearities in ZnSe and CdSe direct band gap crystals," J. Opt. A: Pure Appl. Opt. **9,** 260-264 (2007). Keywords: two-photon absorption

D. C. Hanna, B. Luther-Davies, R. C. Smith, and R. Wyatt, "CdSe down-converter tuned from 9.5 to 24 μm," Appl. Phys. Lett. **25,** 142-144 (1974). Keywords: difference frequency, efficiency, phasematch

G.-M. Schucan, R. G. Ispasoiu, A. M. Fox, and J. F. Ryan, "Ultrafast two-photon nonlinearities in CdSe near 1.5 μm studied by interferometric autocorrelation," IEEE J. Quant. Electron. **34,** 1374-1379 (1998). Keywords: n_2, two-photon absorption

W. Shi and Y. J. Ding, "Coherent radiation in the range of 15-28 μm in a cadmium-selenide crystal," Opt. Comm. **207,** 273-277 (2002). Keywords: damage, difference-frequency, efficiency, phasematch

K. L. Vodopyanov, "Megawatt peak power 8-13 μm CdSe optical parametric generator pumped at 2.8 μm," Opt. Comm. **150,** 210-212 (1998). Keywords: damage, efficiency, phasematch, picosecond

K. L. Vodopyanov, "Mid-infrared optical parametric generator with extra-wide (3 – 19 μm) tunability: applications for spectroscopy of two-dimensional electrons in quantum wells," J. Opt. Soc. Am. **16,** 1579-1586 (1999). Keywords: bandwidth, efficiency, OPG, phasematch, picosecond, two-photon absorption

M. A. Watson, M. V. O'Connor, D. P. Shepherd, and D. C. Hanna, "Synchronously pumped CdSe optical parametric oscillator in the 9-10 μm region," Opt. Lett. **28,** 1957-1959 (2003). Keywords: bandwidth, efficiency, OPO, phasematch, picosecond, pump tuning

J. A. Weiss and L. S. Goldberg, "Singly resonant CdSe parametric oscillator pumped by an HF laser," Appl. Phys. Lett. **24,** 389-391 (1974). Keywords: damage, OPO, phasematch

R. G. Wenzel and G. P. Arnold, "Parametric oscillator: HF oscillator-amplifier pumped CdSe parametric oscillator tunable from 14.1 μm to 16.4 μm," Appl. Opt. **15,** 1322-1326 (1976). Keywords: damage, efficiency, OPO, phasematch

K. H. Yang, J. R. Morris, P. L. Richards, and Y. R. Shen, "Phase-matched far-infrared generation by optical mixing of dye laser beams," Appl. Phys. Lett. **23,** 669-671 (1973). Keywords: difference-frequency, efficiency

CdTe:

N. P. Barnes and M. S. Piltch, "Temperature-dependent Sellmeier coefficients and coherence length for cadmium telluride," J. Opt. Soc. Am. **67,** 628-629 (1977). Keywords: dn/dT

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

O. M. Stafsudd, Jr. and D. H. Alexander, "Continuous second harmonic generation in single-crystal cadmium telluride," Appl. Opt. **10,** 2566-2567 (1971). Keywords: efficiency, sum-frequency

$CO(NH_2)_2$ (Urea):

M. Ebrahimzadeh, M. H. Dunn, and F. Akerboom, "Highly efficient visible urea optical parametric oscillator pumped by a XeCl excimer laser," Opt. Lett. **14,** 560-562 (1989). Keywords: OPO, phasematch, efficiency

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

CsB_3O_5 (CBO):

F. Chang, P. Fu, Y. Wu, G. Chen, Z. Xu, and C. Chen, "Growth of large CsB_3O_5 crystals," J. Cryst. Growth **277,** 298-302 (2005). Keywords: crystal growth, transmission

K. Kato, "Tunable UV generation to 0.185 μm in CsB_3O_5," IEEE J. Quant. Electron. **31,** 169-171 (1995). Keywords: d_{eff}, phasematch, Sellmeier, sum-frequency

H. Kitano, T. Matsui, K. Sato, N. Ushiyama, M. Yoshimura, Y. Mori, and T. Sasaki, "Efficient 355-nm generation in CsB_3O_5 crystal," Opt. Lett. **28,** 263-265 (2003). Keywords: crystal growth, efficiency, nanosecond, sum-frequency

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

T. Saji, M. Yoshimura, N. Hisaminato, Y. Mori, T. Sasaki, T. Katsura, T. Kojima, and J. Nishimae, "355-nm UV light generation in high-quality CsB_3O_5 fabricated by post-growth heat treatment," Jap. J. Appl. Phys. **44,** L422-L424 (2005). Keywords: crystal growth, damage, efficiency, nanosecond, phasematch, sum-frequency

N. Ushiyama, M. Yoshimura, R. Ono, T. Kamimura, Y. K. Yap, Y. Mori, and T. Sasaki, "Growth and characteristics of CsB_3O_5 crystal for solid-state deep-ultraviolet laser," OSA TOPS **50,** 622-624 (2001). Keywords: acceptance angle, crystal growth, d_{eff}, phasematch, walkoff angle

Y.-C. Wu, F. Chang, P.-Z. Fu, C.-T. Chen, G.-L. Wang, A.-C. Geng, Y. Bo, D.-F. Cui, and Z.-Y. Xu, "High-average-power third harmonic generation at 355 nm with CsB_3O_5 crystal," Chin. Phys. Lett. **22,** 1426-1428 (2005). Keywords: crystal growth, d_{eff}, efficiency, nanosecond, sum-frequency

Y. Wu, P. Fu, J. Wang, Z. Xu, L. Zhang, Y. Kong, and C. Chen, "Characterization of CsB_3O_5 crystal for ultraviolet generation," Opt. Lett. **22,** 1840-1842 (1997). Keywords: acceptance angle, d_{eff}, efficiency, phasematch, sum-frequency, walkoff angle

Y. Wu, T. Sasaki, S. Nakai, A. Yokotani, H. Tang, and C. Chen, "CsB_3O_5: A new nonlinear optical crystal," Appl. Phys. Lett. **62,** 2614-2615 (1993). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, sum-frequency, transmission

M. Yoshimura, Y. Mori, Z. G. Hu, and T. Sasaki, "Growth and characterization of nonlinear optical borate crystals $CsLiB_6O_{10}$, CsB_3O_5, and $BaAlBO_3F_2$," Opt. Mater. **26,** 421-423 (2004). Keywords: crystal growth

$CsLiB_6O_{10}$ (CLBO):

G. C. Bhar, P. Kumbhakar, U. Chatterjee, A. M. Rudra, and A. Nagahori, "Widely tunable deep ultraviolet generation in CLBO," Opt. Comm. **176,** 199-205 (2000). Keywords: acceptance angle, efficiency, phasematch, sum-frequency

S. Chandra, T. H. Allik, J. A. Hutchinson, J. Fox, and C. Swim, "Tunable ultraviolet laser source based on solid-state laser technology and $CsLiB_6O_{10}$ harmonic generation," Opt. Lett. **22,** 209-211 (1997). Keywords: acceptance angle, d_{eff}, efficiency, phasematch

U. Chatterjee, P. Kumbhakar, A. K. Chaudhary, and G. C. Bhar, "Tunable mid-infrared generation in cesium borate crystal," Opt. Comm. **188,** 371-372 (2001). Keywords: acceptance angle, bandwidth, difference-frequency, efficiency, phasematch, transmission

M. Divall, K. Osvay, G. Kurdi, E. J. Divall, J. Klebniczki, J. Bohus, A. Peter, and K. Polgar, "Two-photon-absorption of frequency converter crystals at 248 nm," Appl. Phys. B (2005). Keywords: two-photon absorption

D. C. Gerstenberger, T. M. Trautman, and M. S. Bowers, "Noncritically phase-matched second-harmonic generation in cesium lithium borate," Opt. Lett. **28,** 1242-1244 (2003). Keywords: efficiency, nanosecond, phasematch, sum-frequency, temperature-bandwidth

T. Kamimura, S. Fukumoto, R. Ono, Y. K. Yap, M. Yoshimura, Y. Mori, T. Sasaki, and K. Yoshida, "Enhancement of $CsLiB_6O_{10}$ surface-damage resistance by improved crystallinity and ion-beam etching," Opt. Lett. **27,** 616-618 (2002). Keywords: damage

T. Kamimura, R. Nakamura, H. Horibe, M. Nishioka, M. Yamamoto, M. Yoshimura, Y. Mori, T. Sasaki, and K. Yoshida, "Characterization of two-photon absorption related to the enhanced bulk damage resistance in $CsLiB_6O_{10}$ crystal," Jap. J. Appl. Phys. **44,** L665-L667 (2005). Keywords: damage, two-photon absorption

H. Kiriyama, N. Inoue, and K. Yamakawa, "High energy second-harmonic generation of Nd:glass laser radiation with large aperture $CsLiB_6O_{10}$ crystals," Opt. Express **10,** 1028-1032 (2002). Keywords: efficiency, nanosecond, sum-frequency

H. Kiriyama, F. Nakano, and K. Yamakawa, "High-efficiency frequency doubling of a Nd:YAG laser in a two-pass quadrature frequency-conversion scheme using $CsLiB_6O_{10}$ crystals," J. Opt. Soc. Am. B **19,** 1857-1864 (2002). Keywords: efficiency, sum-frequency

T. Kojima, S. Konno, S. Fujikawa, K. Yasui, K. Yoshizawa, Y. Mori, T. Sasaki, M. Tanaka, and Y. Okada, "20-W ultraviolet-beam generation by fourth-harmonic generation of an all-solid-state laser," Opt. Lett. **25,** 58-60 (2000). Keywords: efficiency, M^2, sum-frequency

G. Kurdi, K. Osvay, M. Csatart, I. N. Ross, and J. Klebniczki, "Optical parametric amplification of femtosecond ultraviolet laser pulses," IEEE J. Sel. Top. Quant. Electron. **10,** 1259-1267 (2004). Keywords: bandwidth, femtosecond, OPA, transmission, two-photon absorption

S. B. Mirov, V. V. Fedorov, B. Boczar, R. Frost, and B. Pryor, "All-solid-state laser system tunable in deep ultraviolet based on sum-frequency generation in CLBO," Opt. Comm. **198,** 403-406 (2001). Keywords: efficiency, phasematch, sum-frequency

Y. Mori, I. Kuroda, S. Nakajima, S. Watanabe, T. Sasaki, and S. Nakai, "Growth and characterization of cesium lithium borate," Paper CFC3, CLEO 1995. Keywords: phasematch, walkoff, d_{eff}

Y. Mori, I. Kuroda, S. Nakajima, T. Sasaki, and S. Nakai, "New nonlinear optical crystal: Cesium lithium borate," Appl. Phys. Lett. **67,** 1818-1820 (1995). Keywords: d_{eff}, Sellmeier, phasematch, acceptance angle, acceptance bandwidth, transmission

Y. Mori, Y. K. Yap, T. Kamimura, M. Yoshimura, and T. Sasaki, "Recent development of nonlinear optical borate crystals for UV generation," Opt. Mat. **19,** 1-5 (2002). Keywords: crystal growth, damage, efficiency, sum-frequency

M. Nishioka, A. Kanoh, M. Yoshimura, Y. Mori, and T. Sasaki, "Growth of $CsLiB_6O_{10}$ crystals with high laser-damage tolerance," J. Cryst. Growth **279,** 76-81 (2005). Keywords: crystal growth, damage

M. Nishioka, A. Kanoh, M. Yoshimura, Y. Mori, T. Sasaki, T. Katsura, T. Kojima, and J. Nishimae, "Improvement in UV optical properties of $CsLiB_6O_{10}$ by reducing water molecules in the crystal," Jap. J. Appl. Phys. **44,** L699-L700 (2005). Keywords: damage, efficiency, nanosecond, sum-frequency, transmission

M. Nishioka, F. Kawamura, M. Yoshimura, Y. Mori, and T. Sasaki, "Growth of high-quality $CsLiB_6O_{10}$ crystals from materials mixed in aqueous solution," Jap. J. Appl. Phys. **43,** 1073-1075 (2004). Keywords: crystal growth, damage, transmission

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

V. Petrov, F. Noack, F. Rotermund, M. Tanaka, and Y. Okada, "Sum-frequency generation of femtosecond pulses in $CsLiB_6O_{10}$ down to 175 nm," Appl. Opt. **39,** 5076-5079 (2000). Keywords: efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission, two-photon absorption

G. Ryu, C. S. Yoon, T. P. J. Han, and H. G. Gallagher, "Growth and characterisation of $CsLiB_6O_{10}$ (CLBO) crystals," J. Crystal Growth **191,** 492-500 (1998). Keywords: acceptance angle, damage, phasematch, Sellmeier, temperature-bandwidth

J. Sakuma, Y. Asakawa, T. Imahoko, and M. Obara, "Generation of all-solid-state, high-power continuous-wave 213-nm light based on sum-frequency mixing in $CsLiB_6O_{10}$," Opt. Lett. **29,** 1096-1098 (2004). Keywords: cw, efficiency, sum-frequency

J. Sakuma, Y. Asakawa, and M. Obara, "Generation of 5-W deep-UV continuous-wave radiation at 266 nm by an external cavity with a $CsLiB_6O_{10}$ crystal," Opt. Lett. **29,** 92-94 (2004). Keywords: cw, efficiency, sum-frequency

J. Sakuma, Y. Asakawa, T. Sumiyoshi, and H. Sekita, "High-power cw deep-UV coherent light sources around 200 nm based on external resonant sum-frequency mixing," IEEE J. Sel. Top. Quant. Electron. **10,** 1244-1251 (2004). Keywords: cw, efficiency, sum-frequency

J. Sakuma, K. Deki, A. Finch, Y. Ohsako, and T. Yokota, "All-solid-state, high-power, deep-UV laser system based on cascaded sum-frequency mixing in $CsLiB_6O_{10}$," Appl. Opt. **39,** 5505-5511 (2000). Keywords: efficiency, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

T. Sasaki, Y. Mori, and M. Yoshimura, "Progress in the growth of a $CsLiB_6O_{10}$ crystal and its application to ultraviolet light generation," Opt. Mater. **23,** 343-351 (2003). Keywords: crystal growth, damage, d_{ij}, efficiency, nanosecond, Sellmeier, sum-frequency

L. B. Sharma, H. Daido, Y. Kato, S. Nakai, T. Zhang, Y. Mori, and T. Sasaki, "Fourth-harmonic generation of picosecond glass laser pulses with cesium lithium borate crystals," Appl. Phys. Lett. **69,** 3812-3814 (1996). Keywords: d_{eff}, efficiency, group velocity, picosecond, sum-frequency, walkoff angle

I. Shoji, H. Nakamura, R. Ito, T. Kondo, M. Yoshimura, Y. Mori, and T. Sasaki, "Absolute measurement of second-order nonlinear-optical coefficients of $CsLiB_6O_{10}$ for visible-to-ultraviolet second-harmonic wavelengths," J. Opt. Soc. Am. B **18,** 302-307 (2001). Keywords: d_{eff}, d_{ij}, phasematch, sum-frequency, walkoff angle

A. Sifi, R. S. Klein, A. Maillard, G. E. Kugel, A. Peter, and K. Polgar, "Absolute non-linear optical coefficients measurements of $CsLiB_6O_{10}$ single crystals by second harmonic generation," Opt. Mater. **24,** 431-435 (2003). Keywords: cw, d_{ij}, sum-frequency

R. L. Trickett, M. J. Withford, and D. J. Brown, "4.7-W, 255-nm source based on second-harmonic generation of a copper-vapor laser in cesium lithium borate," Opt. Lett. **23,** 189-191 (1998). Keywords: efficiency, sum-frequency

N. Umemura, K. Yoshida, T. Kamimura, Y. Mori, T. Sasaki, and K. Kato, "New data on the phase-matching properties of $CsLiB_6O_{10}$," OSA TOPS Vol. 26, Advanced Solid-State Lasers, M. Fejer, H. Injeyan, and U. Keller eds., 715-719 (1999). Keywords: phasematch, pump tuning, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning

K. F. Wall, J. S. Smucz, B. Pati, Y. Isyanova, P. F. Moulton, and J. G. Manni, "A quasi-continuous-wave deep ultraviolet laser source," IEEE J. Quant. Electron. **39,** 1160-1169 (2003). Keywords: efficiency, M^2, picosecond, sum-frequency

G. Wang, A. Geng, Y. Bo, H. Li, Z. Sun, Y. Bi, D. Cui, Z. Xu, X. Yuan, X. Wang, G. Shen, and D. Shen, "28.4 W 266 nm ultraviolet-beam generation by fourth-harmonic generation of an all-solid-state laser," Opt. Comm. **259,** 820-822 (2006). Keywords: damage, efficiency, nanosecond, sum-frequency

Y. K. Yap, M. Inagaki, S. Nakajima, Y. Mori, and T. Sasaki, "High-power fourth- and fifth-harmonic generation of a Nd:YAG laser by means of a $CsLiB_6O_{10}$," Opt. Lett. **21,** 1348 (1996). Keywords: acceptance bandwidth, efficiency, d_{eff}, efficiency, phasematch, sum-frequency, temperature-bandwidth, walkoff angle

Y. K. Yap, T. Inoue, H. Sakai, Y. Kagebayashi, Y. Mori, T. Sasaki, K. Deki, and M. Horiguchi, "Long-term operation of $CsLiB_6O_{10}$ at elevated crystal temperature," Opt. Lett. **23,** 34-36 (1998). Keywords: damage

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, "Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction," Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

M. Yoshimura, Y. Mori, Z. G. Hu, and T. Sasaki, "Growth and characterization of nonlinear optical borate crystals $CsLiB_6O_{10}$, CsB_3O_5, and $BaAlBO_3F_2$," Opt. Mater. **26,** 421-423 (2004). Keywords: crystal growth

J.-Y. Zhang, Y. Kong, Z. Xu, and D. Shen, "Optical parametric properties of ultraviolet-pumped cesium lithium borate crystals," Appl. Opt. **41,** 475-482 (2002). Keywords: bandwidth, difference-frequency, efficiency, OPG, phasematch, picosecond

$CsTiOAsO_4$ (CTA):

B. Boulanger, J. P. Feve, G. Marnier, and B. Menaert, "Methodology for optical studies of nonlinear crystals: application to the isomorph family $KTiOPO_4$, $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," Pure Appl. Opt. **7,** 239-256 (1998). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, walkoff angle

L. T. Cheng, L. K. Cheng, J. D. Bierlein, and F. C. Zumsteg, "Nonlinear optical and electro-optical properties of single crystal $CsTiOAsO_4$," Appl. Phys. Lett. **63,** 2618-2620 (1993). Keywords: Sellmeier, acceptance angle, phasematch, ferroelectric poling

L. K. Cheng, L. T. Cheng, J. Galperin, P. A. Morris Hotsenpiller, and J. D. Bierlein, "Crystal growth and characterization of $KTiOPO_4$ isomorphs from the self-fluxes," J. Crystal Growth **137,** 107-115 (1994). Keywords: d_{ij}, Sellmeier

J.-P. Feve, B. Boulanger, O. Pacaud, I. Rousseau, B. Menaert, G. Marnier, P. Villeval, C. Bonnin, G. M. Loiacono, and D. N. Loiacono, "Phase-matching measurements and Sellmeier equations over the complete transparency range of $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," J. Opt. Soc. Am. B **17,** 775-780 (2000). Keywords: difference frequency, phasematch, Sellmeier, sum-frequency

G. R. Holtom, R. A. Crowell, and L. K. Cheng, "Femtosecond mid-infrared optical parametric oscillator based on $CsTiOAsO_4$," Opt. Lett. **20,** 1880-1882 (1995). Keywords: acceptance angle, damage, efficiency, femtosecond, group velocity, OPO, walkoff angle

B. Lai, N. C. Wong, and L. K. Cheng, "Continuous-wave tunable light source at 1.6 μm by difference-frequency mixing in $CsTiOAsO_4$," Opt. Lett. **20,** 1779-1781 (1995). Keywords: d_{eff}, difference frequency, efficiency, phasematch

V. Petrov, F. Noack, and R. Stolzenberger, "Seeded femtosecond optical parametric amplification in the mid-infrared spectral region above 3μm," Appl. Opt. **36,** 1164-1172 (1997). Keywords: acceptance angle, d_{eff}, damage, femtosecond, group velocity

P. E. Powers, C. L. Tang, and L. K. Cheng, "High-repetition-rate femtosecond optical parametric oscillator based on $CsTiOAs)_4$," Opt. Lett. **19,** 37-39 (1994). Keywords: OPO, femtosecond, phasematch

CTT:

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

$CuAlSe_2$:

G. D. Boyd, H. M. Kasper, J. H. McFee, and F. G. Storz, "Linear and nonlinear optical properties of some Ternanry Selenides," IEEE J. Quant. Electron. **QE-8,** 900-908 (1972). Keywords: phasematch, transmission, d_{ij}

$CuGaS_2$:

K. Tanaka and H. Uchiki, "Optical second-harmonic generation from $CuGaS_2$ (112) bulk single crystals," Opt. Comm. **193,** 313-317 (2001). Keywords: d_{ij}, efficiency, femtosecond, sum-frequency

$CuGaSe_2$:

G. D. Boyd, H. M. Kasper, J. H. McFee, and F. G. Storz, "Linear and nonlinear optical properties of some Ternanry Selenides," IEEE J. Quant. Electron. **QE-8,** 900-908 (1972). Keywords: phasematch, transmission, d_{ij}

D. J. Bottomley, A. Mito, S. Niki, and A. Yamada, "Second-harmonic generation from chalcopyrite-structure semiconductor thin films," Opt. Lett. **21,** 254 (1996). Keywords: d_{eff}

$CuGeP_2$:

G. C. Bhar and G. Ghosh, "Temperature-dependent Sellmeier coefficients and coherence lengths for some chalcopyrite crystals," J. Opt. Soc. Am. **69,** 730-733 (1979). Keywords: dn/dT

Cu_2HgI_4:

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

$CuInSe_2$:

D. J. Bottomley, A. Mito, S. Niki, and A. Yamada, "Second-harmonic generation from chalcopyrite-structure semiconductor thin films," Opt. Lett. **21,** 254 (1996). Keywords: d_{eff}

DAST:

H. Adachi, T. Taniuchi, M. Yoshimura, S. Brahadeeswaran, T. Higo, M. Takagi, T. Mori, T. Sasaki, and H. Nakanishi, "High-quality organic 4-dimethylamino-N-methyl-4-stilbazolium tosylate (DAST) crystals for THz generation," Jap. J. Appl. Phys. **43,** L1121-L1123 (2004). Keywords: crystal growth, damage, difference-frequency, efficiency, nanosecond, THz

P. E. Powers, R. A. Alkuwari, J. W. Haus, K. Suizu, and H. Ito, "Terahertz generation with tandem seeded optical parametric generators," Opt. Lett. **30,** 640-642 (2005). Keywords: difference-frequency, nanosecond, THz

T. Taniuchi, H. Adachi, S. Okada, T. Sasaki, and H. Nakanishi, "Continuously tunable THz and far-infrared wave generation from DAST crystal," Electr. Lett. **40,** (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz

T. Taniuchi, S. Okada, and H. Nakanishi, "Widely tunable terahertz-wave generation in an organic crystal and its spectroscopic application," J. Appl. Phys. **95,** 5984-5988 (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz, transmission

2-furyl methacrylic anhydride:

T. Kinoshita, S. Horinouchi, K. Sasaki, H. Okamoto, N. Tanaka, T. Fukaya, and M. Goto, "Nonlinear-optical properties of a novel organic crystal: 2-furyl methacrylic anhydride," J. Opt. Soc. Am. B **11,** 986-994 (1994). Keywords: transmission, phasematch, acceptance angle, temperature bandwidth

GaAs:

L. Becouarn, E. Lallier, B. Brevignon, and J. Lehoux, "Cascaded second-harmonic and sum-frequency generation of a CO_2 laser by use of a single quasi-phase-matched GaAs crystal," Opt. Lett. **23,** 1508-1510 (1998). Keywords: damage, efficiency, quasiphasematch, sum-frequency

A. Garg, A. Kapoor, and K. N. Tripathi, "Laser-induced damage studies in GaAs," Opt. Laser Tech. **35,** 21-24 (2003). Keywords: damage, nanosecond

W. C. Hurlbut, Y.-S. Lee, K. L. Vodopyanov, P. S. Kuo, and M. M. Fejer, "Multiphoton absorption and nonlinear refraction of GaAs in the mid-infrared," Opt. Lett. **32,** 668-670 (2007). Keywords: femtosecond, n_2, two-photon absorption

E. Lallier, M. Brevignon, and J. Lehoux, "Efficient second-harmonic generation of a CO_2 laser with a quasi-phase-matched GaAs crystal," Opt. Lett. **23,** 1511-1513 (1998). Keywords: damage, efficiency, quasiphasematch, sum-frequency

O. Levi, T. J. Pinguet, T. Skauli, L. A. Eyres, K. R. Parameswaran, J. S. Harris, Jr., M. M. Fejer, T. J. Kulp, S. E. Bisson, B. Gerard, E. Lallier, and L. Becouarn, "Difference frequency generation of 8-μm radiation in orientation-patterned GaAs," Opt. Lett. **27,** 2091-2093 (2002). Keywords: crystal growth, cw, d_{eff}, difference-frequency, efficiency, quasiphasematch

R. D. Peterson, K. L. Schepler, J. L. Brown, and P. G. Schunemann, "Damage properties of $ZnGeP_2$ at 2 μm," J. Opt. Soc. Am. B **12,** 2142-2146 (1995). Keywords: damage

E. U. Rafailov, P. Loza-Alvarez, C. T. A. Brown, W. Sibbett, R. M. De La Rue, P. Millar, D. A. Yanson, J. S. Roberts, and P. A. Houston, "Second-harmonic generation from a first-order quasi-phase-matched GaAs/AlGaAs waveguide crystal," Opt. Lett. **26,** 1984-1986 (2001). Keywords: quasiphasematch, sum-frequency, waveguides

A. Romann and M. W. Sigrist, "Photoacoustic gas sensing employing fundamental and frequency-doubled radiation of a continuously tunable high-pressure CO_2 laser," Appl. Phys. B **75,** 377-383 (2002). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency, transmission

L. Scaccabarozzi, M. M. Fejer, Y. Huo, S. Fan, X. Yu, and J. S. Harris, "Enhanced second-harmonic generation in AlGaAs/Al_xO_y tightly confining waveguides and resonant cavities," Opt. Lett. **31,** 3626-3628 (2006). Keywords: efficiency, sum-frequency, waveguides

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

T. Skauli, P. S. Kuo, K. L. Vodopyanov, T. J. Pinguet, O. Levi, L. A. Eyres, J. S. Harris, M. M. Fejer, B. Gererd, L. Becouarn, and E. Lallier, "Improved dispersion relations for GaAs and applications to nonlinear optics," J. Appl. Phys. **94,** 6447-6455 (2003). Keywords: quasiphasematch, Sellmeier, temperature tuning, thermal expansion, transmission

T. Skauli, K. L. Vodopyanov, T. J. Pinguet, A. Schober, O. Levi, L. A. Eyres, M. M. Fejer, J. S. Harris, B. Gerard, L. Becouarn, E. Lallier, and G. Arisholm, "Measurement of the nonlinear coefficient of orientation-patterned GaAs and demonstration of highly efficient second-harmonic generation," Opt. Lett. **27,** 628-630 (2002). Keywords: bandwidth, d_{eff}, d_{ij}, efficiency, nanosecond, quasiphasematch, sum-frequency

X. Yu, L. Scaccabarozzi, A. C. Lin, M. M. Fejer, and J. S. Harris, "Growth of GaAs with orientation-patterned structures for nonlinear optics," J. Cryst. Growth **301-302,** 163-167 (2007). Keywords: crystal growth, efficiency, quasiphasematch, sum-frequency, waveguides

X. Yu, L. Scaccabarozzi, J. S. Harris, P. S. Kuo, and M. M. Fejer, "Efficient continuous wave second harmonic generation pumped at 1.55 μm in quasi-phase-matched AlGaAs waveguides," Opt. Exp. **13,** 10742-10748 (2005). Keywords: bandwidth, crystal growth, cw, efficiency, quasiphasematch, sum-frequency, transmission, waveguides

GaN:

N. A. Sanford, A. V. Davydov, D. V. Tsvetkov, A. V. Dmitriev, S. Keller, U. K. Mishra, S. P. DenBaars, S. S. Park, J. Y. Han, and R. J. Molnar, "Measurement of second order susceptibilities of GaN and AlGaN," J. Appl. Phys. **97,** 053512-1-13 (2005). Keywords: d_{ij}

GaP:

J. Hebling, G. Almasi, I. Z. Kozma, and J. Kuhl, "Velocity matching by pulse front tilting for large-area THz-pulse generation," Opt. Exp. **10,** 1161-1166 (2002). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, group velocity, optical rectification, phasematch, THz

A. Penzkofer, M. Riediger, O. Steinkellner, and B. Lux, "Far infrared sub-nanosecond pulse generation in GaP with a time-synchronized mode-locked double-frequency Nd:Glass laser system," Opt. And Quant. Electron. **34,** 343-357 (2002). Keywords: d_{ij}, difference-frequency, efficiency, phasematch, picosecond, THz, transmission

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

T. Tanabe, K. Suto, J. Nishizawa, T. Kimura, and K. Saito, "Frequency-tunable high-power teraherz wave generation from GaP," J. Appl. Phys. **93,** 4610-4615 (2003). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz

T. Taniuchi and H. Nakanishi, "Collinear phase-matched terahertz-wave generation in GaP crystal using a dual-wavelength optical parametric oscillator," J. Appl. Phys. **95,** 7588-7591 (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz, transmission

GaSe:

K. Allakhverdiev, N. Fernelius, F. Gashimzade, J. Goldstein, E. Salaev, and Z. Salaeva, "Anisotropy of optical absorption in GaSe studied by midinfrared spectroscopy," J. Appl. Phys. **93,** 3336-3339 (2003). Keywords: transmission

K. R. Allakhverdiev, T. Baykara, S. Joosten, E. Gunay, A. A. Kaya, A. Kulibekov, A. Seilmeier, and E. Yu. Salaev, "Anisotropy of two-photon absorption in gallium selenide at 1064 nm," Opt. Comm. **261,** 60-64 (2006). Keywords: crystal growth, two-photon absorption

J. M. Auerhammer and E. R. Eliel, "Frequency doubling of mid-infrared radiation in gallium selenide," Opt. Lett. **21,** 773 (1996). Keywords: efficiency,

T. Dahinten, U. Plodereder, A. Seilmeier, K. L. Vodopyanov, K. R. Allakhverdiev, and Z. A. Ibragimov, "Infrared pulses of 1 picosecond duration tunable between 4 μm an 18 μm," IEEE J. Quant. Electron. **29,** 2245-2250. Keywords: phasematch, difference-frequency, efficiency

S. Das, C. Ghosh, S. Gangopadhyay, U. Chatterjee, G. C. Bhar, V. G. Voevodin, and O. G. Voevodina, "Tunable coherent infrared source from 5-16 μm based on difference-frequency mixing in an indium-doped GaSe crystal," J. Opt. Soc. Am. B **23,** 282-288 (2006). Keywords: acceptance angle, bandwidth, efficiency, phasematch, transmission

S. Das, C. Ghosh, O. G. Voevodina, Yu. M. Andreev, S. Yu. Sarkisov, "Modified GaSe crystal as a parametric frequency converter," Appl. Phys. B (2005). Keywords: acceptance angle, compositional tuning, efficiency, nanosecond, phasematch, sum-frequency, transmission

W. C. Eckhoff, R. S. Putnam, S. Wang, R. F. Curl, F. K. Tittel, "A continuously tunable long-wavelength cw IR source for high-resolution spectroscopy and trace-gas detection," Appl. Phys. B **63,** 437-441 (1996). Keywords: bandwidth, cw, difference-frequency, efficiency, phasematch

S. Ehret and H. Schneider, "Generation of subpicosecond infrared pulses tunable between 5.2 μm and 18 μm at a repetition rate of 76 MHz," Appl. Phys. B **66,** 27-30 (1998). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, group velocity

K. Finsterbusch, A. Bayer, and H. Zacharias, "Tunable, narrow-band picosecond radiation in the mid-infrared by difference frequency mixing in GaSe and CdSe," Appl. Phys. B **79,** 457-462 (2004). Keywords: difference-frequency, efficiency, picosecond

S. M. Foreman, D. J. Jones, and J. Ye, "Flexible and rapidly configurable femtosecond pulse generation in the mid-IR," Opt. Lett. **28,** 370-372 (2003). Keywords: difference-frequency, efficiency, femtosecond

J. M. Fraser, I. W. Cheung, F. Legare, D. M. Villeneuve, J. P. Likforman, M. Joffre, and P. B. Corkum, "High-energy sub-picosecond pulse generation from 3 to 20 μm," Appl. Phys. B **74,** S153-S156 (2002). Keywords: difference-frequency, efficiency, femtosecond, OPA

V.A. Gorobets, V. O. Petukhov, S. Ya. Tochitskii, and V. V. Churakov, "Studies of nonlinear optical characteristics of IR crystals for frequency conversion of TEA-CO_2 laser radiation," J. Opt. Tech. **66,** 53-57 (1999). Keywords: damage, d_{eff}, efficiency, sum-frequency, transmission

S. Haidar, Y. K. Hsu, C. S. Chang, S. C. Wang, and H. Ito, "Difference-frequency mixing of output waves from a periodically poled lithium niobate optical parametric oscillator in a GaSe crystal," Opt. Eng. **41,** 1932-1935 (2002). Keywords: crystal growth, difference-frequency, efficiency, nanosecond, phasematch

M. A. Hernandez, M. V. Andres, A. Segura, and V. Munoz, "Temperature dependence of refractive index and absorption coefficient of GaSe at 633 nm," Opt. Comm. **118,** 335-337 (1995). Keywords: transmission, temperature tuning

L. Kador, D. Haarer, K. R. Allakhverdiev, and E. Yu. Salaev, "Phase-matched second-harmonic generation at 789.5 nm in a GaSe crystal," Appl. Phys. Lett. **69,** 731 (1996). Keywords: phasematch, sum-frequency

R. A. Kaindl, M. Wurm, K. Reimann, P. Hamm, A. M. Weiner, and M. Woerner, "Generation, shaping, and characterization of intense femtosecond pulses tunable from 3 to 20 μm," J. Opt. Soc. Am. B **17,** 2086-2094 (2000). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, group velocity, OPG, phasematch, sum-frequency

N. N. Kolesnikov, E. B. Borisenko, D. N. Borisenko, and V. K. Gartman, "Influence of growth conditions on microstructure and properties of GaSe crystals," J. Cryst. Growth **300,** 294-298 (2007). Keywords: crystal growth, transmission

A. M. Kulibekov, K. Allakhverdiev, D. A. Guseinova, E. Yu. Salaev, and O. Baran, "Optical absorption in GaSe under high-density ultrashort laser pulses," Opt. Comm. **239,** 193-198 (2004). Keywords: two-photon absorption

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

K. Liu, J. Xu, and X.-C. Zhang, "GaSe crystals for broadband terahertz wave detection," Appl. Phys. Lett. **85,** 863-865 (2004). Keywords: femtosecond, optical rectification, THz

O. Okorogu, S. B. Mirov, W. Lee, D. I. Crouthamel, N. Jenkins, A. Yu. Dergachev, K. L. Vodopyanov, and V. V. Badikov, "Tunable middle infrared downconversion in GaSe and $AgGaS_2$," Opt. Comm. **155,** 307-312 (1998). Keywords: difference-frequency, efficiency, phasematch, transmission

G. I. Petrov, K. L. Vodopyanov, and V. V. Yakovlev, "Tunable mid-infrared MHz-rate picosecond pulses generated by optical parametric amplification of white-light continuum in GaSe," Opt. Lett. **32,** 515-517 (2007). Keywords: efficiency, OPO, picosecond

K. Reimann, R. P. Smith, A. M. Weiner, T. Elsaesser, and M. Woerner, "Direct field-resolved detection of terahertz transients with amplitudes of megavolts per centimeter," Opt. Lett. **28,** 471-473 (2003). Keywords: bandwidth, difference-frequency, efficiency, femtosecond, phasematch, THz

W. Shi and Y. J. Ding, "Generation of backward terahertz waves in GaSe crystals," Opt. Lett. **30,** 1861-1863 (2005). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz

W. Shi, Y. J. Ding, N. Fernelius, and F. K. Hopkins, "Observation of difference-frequency generation by mixing of terahertz and near-infrared laser beams in a GaSe crystal," Appl. Phys. Lett. **88,** 101101 (2006). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz

W. Shi, Y. J. Ding, N. Fernelius, and K. Vodopyanov, "Efficient, tunable, and coherent 0.18-5.27-THz source based on GaSe crystal," Opt. Lett. **27,** 1454-1457 (2002). Keywords: difference-frequency, efficiency, phasematch, THz, transmission

W. Shi, Y. J. Ding, X. Mu, and N. Fernelius, "Tunable and coherent nanosecond radiation in the range of 2.7-28.7 μm based on difference-frequency generation in gallium selenide," Appl. Phys. Lett. **80,** 3889-3891 (2002). Keywords: difference-frequency, efficiency, nanosecond, phasematch, pump tuning

W. Shi and Y. J. Ding, "A monochromatic and high-power terahertz source tunable in the ranges of 2.7-38.4 and 58.2-3540 μm for variety of potential applications," Appl. Phys. Lett. **84,** 1635-1637 (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz

N. B. Singh, T. B. Norris, T. Buma, R. N. Singh, M. Gottlieb, D. Suhre, and J. J. Hawkins, "Properties of nonlinear optical crystals in the terahertz wavelength region," Opt. Engin. **45,** 094002-1-7 (2006). Keywords: crystal growth, THz, transmission

N. B. Singh, D. R. Suhre, K. A. Green, N. C. Fernelius, and F. K. Hopkins, "Noncollinear optical parametric oscillator design for walk-off reduction in GaSe crystals," Opt. Eng. **42,** 3270-3273 (2003). Keywords: efficiency, nanosecond, OPO, phasematch, walkoff angle

N. B. Singh, D. R. Suhre, W. Rosch, R. Meyer, M. Marable, N. C. Fernelius, F. K. Hopkins, D. E. Zelmon, and R. Narayanan, "Modified GaSe crystals for mid-IR applications," J. Crystal Growth **198/199,** 588-592 (1999). Keywords: crystal growth, damage, d_{eff}, efficiency

K. L. Vodopyanov, "Parametric generation of tunable infrared radiation in $ZnGeP_2$ and GaSe pumped at 3 μm," J. Opt. Soc. Am. B **10,** 1723-1729 (1993). Keywords: transmission, phasematch, efficiency

K. L. Vodopyanov and V. G. Boevodin, "2.8 μm laser pumped type I and type II travelling-wave optical parametric generator in GaSe," Opt. Comm. **114,** 333-335 (1995). Keywords: phasematch

K. L. Vodopyanov and L. A. Kulevskii, "New dispersion relationships for GaSe in the 0.65 - 18 μm spectral region," Opt. Comm. **118,** 375-378 (1995). Keywords: Sellmeier

K. L. Vodopyanov, S. B. Mirov, V. G. Voevodin, and P. G. Schunemann, "Two-photon absorption in GaSe and $CdGeAs_2$," Opt. Comm. **155,** 47-50 (1998). K. L. Vodopyanov and L. A. Kulevskii, "New dispersion relationships for GaSe in the 0.65 - 18 μm spectral region," Opt. Comm. **118,** 375-378 (1995). Keywords: damage, two-photon absorption

K. L. Vodopyanov, "Mid-infrared optical parametric generator with extra-wide (3 – 19 μm) tunability: applications for spectroscopy of two-dimensional electrons in quantum wells," J. Opt. Soc. Am. **16,** 1579-1586 (1999). Keywords: bandwidth, efficiency, OPG, phasematch, picosecond, two-photon absorption

V. G. Voevodin, O. V. Voevodina, S. A. Bereznaya, Z. V. Korotchenko, A. N. Norozov, S. Yu. Sarkisov, N. C. Fernelius, and J. T. Goldstein, "Large single crystals of gallium selenide: growing, doping by In and characterization," Opt. Mater. **26,** 495-499 (2004). Keywords: crystal growth

$GdAl_3(BO_3)_4$ (GAB):

A. Brenier, C. Tu, J. Li, Z. Zhu, and B. Wu, "Spectroscopy, laser operation at 1.3 μm and self-frequency doubling in $GdAl_3(BO_3)_4:Nd^{3+}$," Opt. Comm. **200,** 355-358 (2001). Keywords: efficiency, phasematch, sum-frequency

A. Brenier, C. Tu, J. Li, Z. Zhu, and B. Wu, "Self-sum- and -difference-frequency mixing in $GdAl_3(BO_3)_4:Nd^{3+}$ for generation of tunable ultraviolet and infrared radiation," Opt. Lett. **27,** 240-242 (2002). Keywords: difference-frequency, efficiency, sum-frequency

A. Brenier, C. Tu, M. Qiu, A. Jiang, J. Li, and B. Wu, "Spectroscopic properties, self-frequency doubling, and self-sum frequency mixing in $GdAl_3(BO_3)_4:Nd^{3+}$," J. Opt. Soc. Am. B **18,** 1104-1110 (2001). Keywords: crystal growth, efficiency, phasematch, sum-frequency

A. Brenier, C. Tu, Z. Zhu, and B. Wu, "Red-green-blue generation from a lone dual-wavelength $GdAl_3(BO_3)_4:Nd^{3+}$ laser," Appl. Phys. Lett. **84,** 2034-2036 (2004). Keywords: efficiency, lasing, nanosecond, phasematch, Sellmeier, sum-frequency

M. Huang, Y. Chen, X. Chen, Y. Huang, and Z. Luo, "Study on cw fundamental and self-frequency doubling laser of $Nd^{3+}:GdAl_3(BO_3)_4$ crystal," Opt. Comm. **204,** 333-338 (2002). Keywords: cw, efficiency, sum-frequency

C. Tu, M. Qiu, Y. Huang, X. Chen, A. Jiang, and Z. Luo, "The study of a self-frequency-doubling laser crystal $Nd^{3+}:GdAl_3(BO_3)_4$," J. Cryst. Growth **208,** 487-492 (2000). Keywords: crystal growth, efficiency, Sellmeier, sum-frequency, temperature tuning

$GdCa_4O(BO_3)_3$ (GdCOB):

J. J. Adams, C. A. Ebbers, K. I. Schaffers, and S. A. Payne, "Type I frequency doubling at 1064 nm in $LaCa_4O(BO_3)_3$ (LaCOB), $GdCa_4O(BO_3)_3$ (GdCOB), and $YCa_4O(BO_3)_3$ (YCOB)," OSA TOPS **50,** 615-621 (2001). Keywords: acceptance angle, crystal growth, d_{eff}, phasematch, sum-frequency, temperature-bandwidth

G. Aka and A. Brenier, "Self-frequency conversion in nonlinear laser crystals," Opt. Mat. **22,** 89-94 (2003). Keywords: cw, efficiency, lasing, sum-frequency, temperature-bandwidth

G. Aka, A. Kahn-Harari, F. Mougel, D. Vivien, F. Salin, P. Coquelin, P. Colin, D. Pelenc, and J. P. Damlet, "Linear- and nonlinear-optical properties of a new gadolinium calcium oxoborate crystal, $Ca_4GdO(BO_3)_3$," J. Opt. Soc. Am. **14,** 2238-2247 (1997). Keywords: d_{eff}, phasematch, Sellmeier, transmission

G. Aka, F. Mougel, D. Pelenc, B. Ferrand, and D. Vivien, "Comparative evaluation of GdCOB and YCOB nonlinear-optical properties, in principal and out of principal plane configurations, for the 1064 nm Nd:YAG laser frequency conversion," Proc. SPIE **3928,** 108-114 (2000). Keywords: acceptance angle, d_{eff}, d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, transmission, walkoff angle

G. Aka, E. Reino, P. Loiseau, D. Vivien, B. Ferrand, L. Fulbert, D. Pelenc, G. Lucas-Leclin, and P. Georges, "$Ca_4REO(BO_3)_3$ crystals for green and blue microchip laser generation: from crystal growth to laser and nonlinear optical properties," Opt. Mater. **26,** 431-436 (2004). Keywords: efficiency, sum-frequency

M. T. Andersen, J. L. Mortensen, S. Germershausen, P. Tidemand-Lichtenberg, P. Buchhave, L. Gheorghe, V. Lupei, P. Loiseau, and G. Aka, "First measurement of the nonlinear coefficient for $Gd_{1-x}Lu_xCa_4O(BO_3)_3$ and $Gd_{1-x}Sc_xCa_4O(BO_3)_3$ crystals," Opt. Exp. **15,** 4893-4901 (2007). Keywords: cw, d_{eff}, sum-frequency, temperature-bandwidth

F. Auge, F. Druon, F. Balembois, A. Brun, F. Mougel, G. Aka, and D. Vivien, "Theoretical and experimental investigations of a diode-pumped quasi-three-level laser: the Yb^{3+}-doped $Ca_4GdO(BO_3)_3$ (Yb:GdCOB) laser," IEEE J. Quant. Electron. **36,** 598-606 (2000). Keywords: thermal conductivity

A. Brenier, A. Majchrowski, E. Michalski, and T. Lukasiewicz, "Evaluation of GdCOB:Nd^{3+} for self-frequency doubling in the optimum phase matching direction," Opt. Comm. **217,** 395-400 (2003). Keywords: crystal growth, crystal structure, d_{eff}, efficiency, lasing, nanosecond, sum-frequency

P. B. W. Burmester, T. Kellner, K. Petermann, G. Huber, R. Uecker, and P. Reiche, "Type-I non-critically phase-matched second-harmonic generation in $Gd_{1-x}Y_xCa_4O(BO_3)_3$," Appl. Phys. B **68,** 1143-1146 (1999). Keywords: acceptance angle, compositional tuning, crystal growth, phasematch, temperature bandwidth, temperature tuning

X. Chen, M. Huang, Z. Luo, and Y. Huang, "Determination of the optimum phase-matching directions for the self-frequency conversion of Nd:GdCOB and Nd:YCOB crystals," Opt. Comm. **196,** 299-307 (2001). Keywords: d_{eff}, d_{ij}, phasematch, walkoff angle

H. Furuya, H. Nakao, I. Yamada, Y. F. Ruan, Y. K. Yap, M. Yoshimura, Y. Mori, and T. Sasaki, "Alleviation of photoinduced damage in $Gd_xY_{1-x}Ca_4O(BO_3)_3$ at elevated crystal temperature for noncritically phase-matched 355-nm generation," Opt. Lett. **25,** 1588-1590 (2000). Keywords: damage, efficiency, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

H. Furuya, M. Yoshimura, T. Kobayashi, K. Murase, Y. Mori, and T. Sasaki, "Crystal growth and characterization of $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," J. Crystal Growth **198/199,** 560-563 (1999). Keywords: compositional tuning, crystal growth, d_{eff}, transmission

M. Iwai, T. Kobayashi, H. Furuya, Y. Mori, and T. Sasaki, "Crystal growth and optical characterization of rare-earth (Re) calcium oxyborate $ReCa_4O(BO_3)_3$ (Re=Y or Gd) as new nonlinear optical material," Jpn. J. Appl. Phys. **36,** L276-L279 (1997). Keywords: acceptance angle, d_{eff}, efficiency, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, transmission.

H. Kitano, H. Kawai, K. Muramatsu, S. Owa, M. Yoshimura, Y. Mori, and T. Sasaki, "387-nm generation in $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal and its utilization for 193-nm light source," Jpn. J. Appl. Phys. **42,** L166-L169 (2003). Keywords: compositional tuning, crystal growth, damage, efficiency, nanosecond, phasematch, sum-frequency

J. Liu, Z. Fei, S. Zhang, C. Du, J. Wang, H. Chen, and Z. Shao, "Investigation on intracavity second-harmonic generation of a new Li-doped $GdCa_4O(BO_3)_3$ crystal," Opt. and Laser Tech. **33,** 597-600 (2001). Keywords: d_{eff}, efficiency, sum-frequency

J. Liu, Z. Wang, S. Zhang, J. Wang, H. Chen, Z. Shao, and M. Jiang, "Second-harmonic generation of 1.06 μm in Sr doped $GdCa_4O(BO_3)_3$," Opt. Comm. **195,** 267-271 (2001). Keywords: crystal growth, d_{eff}, efficiency, sum-frequency

J. Liu, X. Xu, C. Q. Wang, S. Zhang, J. Wang, H. Chen, Z. Shao, and M. Jiang, "Intracavity second-harmonic generation of 1.06 μm in $GdCa_4O(BO_3)_3$ crystals," Appl. Phys. B **72,** 163-166 (2001). Keywords: d_{eff}, efficiency, phasematch, sum-frequency

J. Lu, G. Li, J. Liu, S. Zhang, H. Chen, M. Jiang, and Z. Shao, "Second harmonic generation and self-frequency doubling in Nd:$GdCa_4O(BO_3)_3$ crystal," Opt. Comm. **168,** 405-408 (1999). Keywords: d_{eff}, efficiency, phasematch, sum-frequency

A. Major, J. S. Aitchison, P. W. E. Smith, F. Druon, P. Georges, B. Viana, G. P. Aka, "Z-scan measurements of the nonlinear refractive indices of novel Yb-doped laser crystal hosts," Appl. Phys. B **80,** 199-201 (2005). Keywords: n_2

F. Mougel, K. Dardenne, G. Aka, A. Kahn-Harari, and D. Vivien, "Ytterbium-doped $Ca_4GdO(BO_3)_3$;an efficient infrared laser and self-frequency doubling crystal," J. Opt. Soc. Am. B **16,** 164-172 (1999). Keywords: crystal structure, efficiency, Sellmeier, sum-frequency, temperature-bandwidth, thermal conductivity

F. Mougel, G. Aka, A. Kahn-Harari, and D. Vivien, "CW blue laser generation by self-sum frequency mixing in Nd:$Ca_4GdO(BO_3)_3$ (Nd:GdCOB) single crystal," Opt. Mat. **13,** 293-297 (1999). Keywords: efficiency, phasematch

Z. Shao, J. Lu, Z. Wang, J. Wang, and M. Jiang, "Anisotropic properties of Nd:ReCOB (Re=Y, Gd): A low symmetry self-frequency doubling crystal," Prog. Crystal Growth and Characterization of Materials **40,** 63-73 (2000). Keywords: d_{eff}, d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency

P. Tzankov and V. Petrov, "Effective second-order nonlinearity in acentric optical crystals with low symmetry," Appl. Opt. **44,** 6971-6985 (2005). Keywords: d_{ij}

C. Wang, H. Zhang, X. Meng, L. Zhu, Y. T. Chow, X. Liu, R. Cheng, H. Yang, S. Zhang, and L. Sun, "Thermal, spectroscopic properties and laser performance at 1.06 and 1.33 μm of Nd:$Ca_4YO(BO_3)_3$ and Nd:$Ca_4GdO(BO_3)_3$ crystals," J. Crystal Growth **220,** 114-120 (2000). Keywords: crystal growth, flourescence, thermal expansion

C. Q. Wang, Y. T. Chow, W. A. Gambling, S. J. Zhang, Z. X. Cheng, Z. S. Shao, and H. C. Chen, "Efficient self-frequency doubling of Nd:GdCOB crystal by type-I phase matching out of its principal planes," Opt. Comm. **174,** 471-474 (2000). Keywords: efficiency, phasematch

J. Wang, Z. Shao, J. Wei, X. Hu, Y. Liu, B. Gong, G. Li, J. Lu, M. Guo, and M. Jiang, "Research on growth and self-frequency doubling of Nd:ReCOB (Re=Y or Gd) crystals," Prog. in Crystal Growth and Characterization of Materials **40,** 17-31 (2000). Keywords: crystal growth, crystal structure, d_{eff}, d_{ij}, phasematch, Sellmeier, sum-frequency

Z. Wang, J. Liu, R. Song, X. Xu, X. Sun, H. Jiang, K. Fu, J. Wang, Y. Liu, J. Wei, and Z. Shao, "The second-harmonic-generation property of $GdCa_4O(BO_3)_3$ crystal with various phase-matching directions," Opt. Comm. **187,** 401-405 (2001). Keywords: efficiency, phasematch, picosecond, sum-frequency

Z. Wang, X. Xu, K. Fu, R. Song, J. Wang, J. Wei, Y. Liu, and Z. Shao, "Non-critical phase matching of $Gd_xY_{1-x}Ca_4O(BO_3)_3$(Gd_xY_{1-x}COB) crystal," Solid State Comm. **120,** 397-400 (2001). Keywords: compositional tuning, crystal growth, damage, efficiency, phasematch, picosecond, sum-frequency

M. Yoshimura, H. Furuya, T. Kobayashi, K. Murase, Y. Mori, and T. Sasaki, "Noncritically phase-matched frequency conversion in $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," Opt. Lett. **24,** 193-195 (1999). Keywords: crystal structure, d_{eff}, efficiency, phasematch

S. Zhang, Z. Cheng, J. Han, L. Sun, X. Zhang, S. Zhao, Q. Wang, and H. Chen, "Growth of $Nd_xGd_{1-x}Ca_4O(BO_3)_3$," J. Crystal Growth **212,** 217-221 (2000). Keywords: crystal growth, picosecond, sum-frequency

S. Zhang, Z. Cheng, J. Han, G. Zhou, Z. Shao, C. Wang, Y. T. Chow, and H. Chen, "Growth and investigation of efficient self-frequency-doubling $Nd_xGd_{1-x}Ca_4O(BO_3)_3$," J. Crystal Growth **206,** 197-202 (1999). Keywords: crystal growth, crystal structure, d_{eff}, efficiency, flourescence, phasematch, sum-frequency, thermal expansion, transmission

S. Zhang, Z. Cheng, J. Lu, G. Li, J. Lu, Z. Shao, H. Chen, "Studies of the effective nonlinear coefficient of $GdCa_4O(BO_3)_3$," J. Crystal Growth **205,** 453-456 (1999). Keywords: acceptance angle, damage, d_{eff}, efficiency, phasematch, sum-frequency, transmission, walkoff angle

S. Zhang, Z. Cheng, S. Zhang, J. Han, L. Sun, and H. Chen, "Growth and noncritical phase-matching third-harmonic-generation of $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," J. Crystal Growth **231,** 415-418 (2000). Keywords: compositional tuning, crystal growth, crystal structure, efficiency, phasematch, sum-frequency, transmission

$Gd_2(MoO_4)_3$:

A. A. Kaminskii, A. V. Butashin, H.-J. Eichler, D. Grebe, R. Macdonald, K. Ueda, H. Nishioka, W. Odajima, M. Tateno, J. Song, M. Musha, S. N. Bagaev, and A. A. Pavlyuk, "Orthorhombic ferroelectric and ferroelastic $Gd_2(MoO_4)_3$ crystal- a new many-purposed nonlinear and optical material: efficient multiple stimulated Raman scattering and CW and tunable second harmonic generation," Opt. Materials **7,** 59-73 (1997). Keywords: d_{ij}, d_{eff}, efficiency, femtosecond, phasematch, picosecond, Sellmeier

Q. Yuan, T. Ren, G. Luo, S. Pan, J. Xu, Y. Zhu, and S. Zhu, "Fabrication of periodic domain structure in β'-$Gd_2(MoO_4)_3$ crystal," J. Cryst. Growth **243,** 185-189 (2002). Keywords: ferroelectric poling, quasiphasematch, sum-frequency

$HgGa_2S_4$ (Mercury thiogallate):

V. V. Badikov, A. K. Don, K. V. Mitin, A. M. Seregin, V. V. Sinaiskii, and N. I. Shchebetova, "A $HgGa_2S_4$ optical parametric oscillator," Quant. Electron. **33,** 831-832 (2003). Keywords: efficiency, OPO, nanosecond, phasematch

S. Das, U. Chatterjee, C. Ghosh, S. Gangopadhyay, Yu. M. Andreev, G. Lanskii, and V. V. Badikov, "Tunable middle infrared radiation with $HgGa_2S_4$ crystal," Opt. Comm. **259,** 868-872 (2006). Keywords: acceptance angle, crystal growth, phasematch, sum-frequency, thermal conductivity, transmission

V. Petrov, V. Badikov, V. Panyutin, G. Shevyrdyaeva, S. Sheina, and F. Rotermund, "Mid-IR optical parametric amplification with femtosecond pumping near 800 nm using $Cd_xHg_{1-x}Ga_2S_4$," Opt. Comm. **235,** 219-226 (2004). Keywords: crystal growth, efficiency, femtosecond, group velocity, OPA, phasematch, Sellmeier, transmission, two-photon absorption

V. Petrov and F. Rotermund, "Application of the solid solution $Cd_xHg_{1-x}Ga_2S_4$ as a nonlinear optical crystal," Opt. Lett. **27,** 1705-1707 (2002). Keywords: compositional tuning, d_{ij}, efficiency, femtosecond, group velocity, OPA, phasematch, Sellmeier, transmission, two-photon absorption

F. Rotermund and V. Petrov, "Mercury thiogallate mid-infrared femtosecond otpical parametric generator pumped at 1.25 μm by a Cr:forsterite regenerative amplifier," Opt. Lett. **25,** 746-748 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPG

F. Rotermund, V. Petrov, and F. Noack, "Difference-frequency generation of intense femtosecond pulses in the mid-IR (4-12 μm) using $HgGa_2S_4$ and $AgGaS_2$," Opt. Comm. prepub. Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, OPG, phasematch, transmission

α-HIO_3 (Iodic acid):

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

$K_2Al_2B_2O_7$ (KABO):

C. Chen, Z. Lin, and Z. Wang, "The development of new borate-based UV nonlinear optical crystals," Appl. Phys. B **80,** 1-25 (2005). Keywords: crystal structure, d_{ij}, efficiency, nanosecond, phasematch, picosecond, Sellmeier, sum-frequency

Z.-G. Hu, T. Higashiyama, M. Yoshimura, Y. Mori, and T. Sasaki, "Flux growth of the new nonlinear optical crystal: $K_2Al_2B_2O_7$," J. Cryst. Growth **212,** 368-371 (2000). Keywords: crystal growth

Z.-G. Hu, M. Yoshimura, Y. Mori, T. Sasaki, and K. Kato, "Growth of $K_2Al_2B_2O_7$ crystal for UV light generation," Opt. Mater. **23,** 353-356 (2003). Keywords: acceptance angle, crystal growth, d_{eff}, efficiency, nanosecond, phasematch, Sellmeier, sum-frequency, walkoff angle

P. Kumbhakar, S. Adachi, Z.-G. Hu, M. Yoshimura, Y. Mori, T. Sasaki, and T. Kobayashi, "Generation of tunable near-UV laser radiation by type-I second-harmonic generation in a new crystal, $K_2Al_2B_2O_7$ (KABO)," Jpn. J. Appl. Phys. **42,** L1255-L1258 (2003). Keywords: efficiency, femtosecond, phasematch, sum-frequency

J. Lu, G. Wang, Z. Xu, C. Chen, J. Wang, C. Zhang, Y. Liu, "Efficient 266 nm ultraviolet beam generation in $K_2Al_2B_2O_7$ crystal," Chin. Phys. Lett. **19,** 680-681 (2002). Keywords: efficiency, phasematch, sum-frequency

N. Umemura, M. Ando, K. Suzuki, E. Takaoka, K. Kato, Z.-G. Hu, M. Yoshimura, Y. Mori, and T. Sasaki, "200-mW-average power ultraviolet generation at 0.193 μm in $K_2Al_2B_2O_7$," Appl. Opt. **42,** 2716-2719 (2003). Keywords: acceptance angle, d_{eff}, d_{ij}, efficiency, nanosecond, phasematch, Sellmeier, sum-frequency, temperature-bandwidth

N. Ye, W. Zeng, J. Jiang, B. Wu, C. Chen, B. Feng, and X. Zhang, "New nonlinear optical crystal $K_2Al_2B_2O_7$," J. Opt. Soc. B **17,** 764-768 (2000). Keywords: crystal growth, crystal structure, d_{eff}, d_{ij}, phasematch, Sellmeier, transmission

C. Zhang, J. Wang, X. Cheng, X. Hu, H. Jiang, Y. Liu, and C. Chen, "Growth and properties of $K_2Al_2B_2O_7$ crystal," Opt. Mater. **23,** 357-362 (2003). Keywords: crystal growth, thermal expansion

C. Zhang, J. Wang, X. Hu, H. Jiang, Y. Liu, and C. Chen, "Growth of large $K_2Al_2B_2O_7$ crystals," J. Cryst. Growth **235,** 1-4 (2002). Keywords: crystal growth, crystal structure, efficiency, picosecond, sum-frequency, transmission

C. Zhang, J. Wang, X. Hu, H. Liu, J. Wei, Y. Liu, Y. Wu, C. Chen, "Top-seeded growth of $K_2Al_2B_2O_7$," J. Crystal Growth **231,** 439-441 (2001). Keywords: crystal growth, crystal structure

$KBe_2BO_3F_2$ (KBBF):

C. Chen, "Recent advances in deep and vacuum-UV harmonic generation with KBBF crystal," Opt. Mater. **26,** 425-429 (2004). Keywords: d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency

C. Chen, Z. Lin, and Z. Wang, "The development of new borate-based UV nonlinear optical crystals," Appl. Phys. B **80,** 1-25 (2005). Keywords: crystal structure, d_{ij}, efficiency, nanosecond, phasematch, picosecond, Sellmeier, sum-frequency

C. Chen, J. Lu, T. Togashi, T. Suganuma, T. Sekikawa, S. Watanabe, Z. Xe, and J. Wang, "Second-harmonic generation from a $KBe_2BO_3F_2$ crystal in the deep ultraviolet," Opt. Lett. **27,** 637-639 (2002). Keywords: efficiency, femtosecond, group velocity, nanosecond, phasematch, sum-frequency, transmission

C. Chen, Z. Xu, D. Deng, J. Zhang, G. K. L. Wong, B. Wu, N. Ye, and D. Tang, "The vacuum ultraviolet phase-matching characteristics of nonlinear optical $KBe_2BO_3F_2$ crystal," Appl. Phys. Lett. **68,** 2930-2932 (1996). Keywords: acceptance angle, efficiency, phasematch, Sellmeier, sum-frequency

C. Chen, Y. Wang, Y. Xia, B. Wu, D. Tang, K. Wu, Z. Wenrong, L. Yu, and L. Mei, "New development of nonlinear optical crystals for the ultraviolet region with moleculr engineering approach," J. Appl. Phys. **77,** 2268-2272 (1995). Keyword: d_{eff}

T. Kanai, T. Kanda, T. Sekikawa, S. Watanabe, T. Togashi, C. Chen, C. Zhang, Z. Xu, and J. Wang, "Generation of vacuum-ultraviolet light below 160 nm in a KBBF crystal by the fifth harmonic of a single-mode Ti:sapphire laser," J. Opt. Soc. Am. B **21,** 370-372 (2004). Keywords: efficiency, nanosecond, phasematch, sum-frequency, transmission

J. Lu, C. Wang, Z. Xu, C. Chen, J. Wang, C. Zhang, and Y. Liu, "High-efficiency fourth-harmonic generation of KBBF crystal," Opt. Comm. **200,** 415-418 (2001). Keywords: efficiency, picosecond, sum-frequency

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

D. Tang, Y. Xia, B. Wu, and C. Chen, "Growth of a new UV nonlinear optical crystal: $KBe_2(BO_3)F_2$," J. Crystal Growth **222,** 125-129 (2001). Keywords: crystal growth, crystal structure, phasematch, sum-frequency, transmission

T. Togashi, T. Kanai, T. Sekikawa, S. Watanabe, C. Chen, C. Zhang, Z. Xu, and J. Wang, "Generation of vacuum-ultraviolet light by an optically contacted, prism-coupled $Kbe_2BO_3F_2$ crystal," Opt. Lett. **28,** 254-256 (2003). Keywords: efficiency, picosecond, sum-frequency

G. Wang, C. Zhang, C. Chen, A. Yao, J. Zhang, Z. Xu, and J. Wang, "High-efficiency 266-nm output of a KBe_2 BO_3F_2 crystal," Appl. Opt. **42,** 4331-4334 (2003). Keywords: acceptance angle, efficiency, picosecond, sum-frequency

G. L. Wang, C. Q. Zhang, C. T. Chen, Z. Y. Xu, and J. Y. Wang, "Determination of nonlinear optical coefficients of $KBe_2BO_3F_2$ crystals," Chin. Phys. Lett. **20,** 243-245 (2003). Keywords: d_{ij}, nanosecond, sum-frequency

B. Wu, D. Tang, N. Ye, C. Chen, "Linear and nonlinear optical properties of the $KBe_2BO_3F_2$ (KBBF) crystal," Optical Materials **5,** 105-109 (1996). Keywords: Sellmeier, d_{eff} , transmission, damage

$KB_5O_8 \bullet 4H_2O$ (KB5):

W. R. Cook, Jr., L. M. Hubby, Jr., "Indices of refraction of potassium pentaborate," J. Opt. Soc. Am. **66,** 72-73 (1976). Keywords: Sellmeier

F. B. Dunning and R. E. Stickel, Jr., "Sum frequency mixing in potassium pentaborate as a source of tunable coherent radiation at wavelengths below 217 nm," Appl. Opt. **15,** 3131-3134 (1976). Keywords: phasematch, Sellmeier

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

R. E. Stickel, Jr. and F. B. Dunning, "Generation of tunable coherent vacuum uv radiation in KB5," Appl. Opt. **17,** 981-982 (1978). Keywords: phasematch

R. E. Stickel, Jr. and F. B. Dunning, "Generation of coherent radiation tunable from 201 nm to 212 nm," Appl. Opt. **16,** 2356-2358 (1977). Keywords: phasematch, temperature bandwidth

R. E. Stickel, Jr., S. Blit, G. F. Hildebrandt, E. D. Dahl, F. B. Dunning, and F. K. Tittel, "Generation of coherent cw radiation tunable from 211 nm to 216 nm," Appl. Opt. **17,** 2270 (1978). Keywords: phasematch

N. Umemura and K. Kato, "Phase-matched UV generation at 0.1774 μm in $KB_5O_8 \bullet 4H_2O$," Appl. Opt. **35,** 5332-5335 (1996). Keywords: damage, phasematch, Sellmeier

$K_2C_4H_4O_6 \bullet ½H_2O$ (Dipotassium tartrate):

M. V. Hobden, "Phase-matched second-harmonic generation in biaxial crystals," J. Appl. Phys. **38,** 4365-4372. Keywords: phasematch

KDA:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

KDP:

M. Aoyama, T. Harimoto, J. Ma, Y. Akahane, and K. Yamakawa, "Second-harmonic generation of ultra-high intensity femtosecond pulses with a KDP crystal," Opt. Exp. **9,** 579-585 (2001). Keywords: chirped pulse amplification, efficiency, femtosecond, sum-frequency

J. M. Auerbach, P. J. Wegner, S. A. Couture, D. Eimerl, R. L. Hibbard, D. Milam, M. A. Norton, P. K. Whitman, and L. A. Hackel, "Modeling of frequency doubline and tripling with measured crystal spatial refractive-index nonuniformities," Appl. Opt. **40,** 1404-1411 (2001). Keywords: efficiency, phasematch, sum-frequency

G. P. Banfi, V. Degiorgio, D. Fortusini, and M. Bellini, "Measurement of the two-photon absorption coefficient of semiconductor nanocrystals by using tunable femtosecond pulses," Opt. Lett. **21,** 1490-1492 (1996). Keywords: two-photon absorption

O. V. Chekhlov, J. L. Collier, I. N. Ross, P. K. Bates, M. Notley, C. Hernandez-Gomez, W. Shaikh, C. N. Danson, D. Neely, P. Matousek, S. Hancock, and L. Cardoso, "35 J broadband femtosecond optical parametric chirped pulse amplification system," Opt. Lett. **31,** 3665-3667 (2006). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond

M. M. Choy and R. L. Byer, "Accurate second-order susceptibility measurements of visible and infrared nonlinear crystals," Phys. Rev. B **14,** 1693-1706 (1976). Keywords: d_{ij}

R. S. Craxton, S. D. Jacobs, J. E. Rizzo, and R. Boni, "Basic properties of KDP related to the frequency conversion of 1 μm laser radiation," IEEE J. Quant. Electron. **QE-17,** 1782-1786 (1981). Keywords: phasematch, dn/dT, acceptance angle, temperature bandwidth

P. DeMange, C. W. Carr, R. A. Negres, H. B. Radousky, and S. G. Demos, "Multiwavelength investigation of laser-damage performance in potassium dihydrogen phosphate after laser annealing," Opt. Lett. **30,** 221-223 (2005). Keywords: damage, nanosecond

S. G. Demos, M. Staggs, M. Yan, H. B. Radouky, and J. J. De Yoreo, "Microscopic flourescence imaging of bulk defect clusters in KH_2PO_4 crystals," Opt. Lett. **24,** 268-270 (1999). Keywords: crystal structure, flourescence

M. Divall, K. Osvay, G. Kurdi, E. J. Divall, J. Klebniczki, J. Bohus, A. Peter, and K. Polgar, "Two-photon-absorption of frequency converter crystals at 248 nm," Appl. Phys. B (2005). Keywords: two-photon absorption

A. Dubietis, G. Tamosauskas, and A. Varanavicius, "Femtosecond third-harmonic pulse generation by mixing of pulses with different duration," Opt. Comm. **186,** 211-217 (2000). Keywords: efficiency, femtosecond, group velocity, sum-frequency

A. Dubietis, G. Tamosauskas, A. Varanavicius, and G. Valiulis, "Two-photon absorbing properties of ultraviolet phase-matched crystals at 264 and 211 nm," Appl. Opt. **39,** 2437-2440 (2000). Keywords: two-photon absorption

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, MgO:$LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth, n_2

R. J. Gehr and A. V. Smith, "Separated-beam nonphase-matched second-harmonic method of characterizing nonlinear optical crystals," J. Opt. Soc. Am. B **15,** 2298-2307 (1998). Keywords: d_{eff}, d_{ij}, phasematch, sum-frequency

G. C. Ghosh and G. C. Bhar, "Temperature dispersion in ADP, KDP, and KD^*P for nonlinear devices," IEEE J. Quant. Electron. **QE-18,** 143-145 (1982). Keywords: difference-frequency, phasematch, Sellmeier, temperature tuning

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

I. A. Kulagin, R. A. Ganeev, R. I. Tugushev, A. I. Ryasnyansky, and T. Usmanov, "Analysis of third-order nonlinear susceptibilities of quadratic nonlinear optical crystals," J. Opt. Soc. B **23,** 75-80 (2006). Keywords: n_2

G. Kurdi, K. Osvay, M. Csatart, I. N. Ross, and J. Klebniczki, "Optical parametric amplification of femtosecond ultraviolet laser pulses," IEEE J. Sel. Top. Quant. Electron. **10,** 1259-1267 (2004). Keywords: bandwidth, femtosecond, OPA, transmission, two-photon absorption

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

C. D. Marshall, S. A. Payne, M. A. Henesian, J. A. Speth, and H. T. Powell, "Ultraviolet-induced transient absorption in potassium dihydrogen phosphate and its influence on frequency conversion," J. Opt. Soc. Am. B **11,** 774-785 (1994). Keywords: two-photon absorption

P. Mounaix, L. Sarger, J. P. Caumes, and E. Freysz, "Characterization of non-linear potassium crystals in the terahertz frequency domain," Opt. Comm. **242,** 631-639 (2004). Keywords: THz, transmission

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

D. A. Roberts, "Dispersion equations for nonlinear optical crystals: KDP, $AgGaSe_2$, and $AgGaS_2$," Appl. Opt. **35,** 4677-4688. Keywords: Sellmeier

I. N. Ross, J. L. Collier, P. Matousek, C. N. Danson, D. Neely, R. M. Allott, D. A. Pepler, C. Hernandez-Gomez, and K. Osvay, "Generation of terawatt pulses by use of optical parametic chirped pulse amplification," Appl. Opt. **39,** 2422-2427 (2000). Keywords: bandwidth, chirped pulse amplification, difference frequency, efficiency, femtosecond

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

W. L. Smith;, J. H. Bechtel, and N. Bloembergen, "Dielectric-breakdown threshold and nonlinear-refractive-index measurements with picosecond laser pulses," Phys. Rev. B **12,** 706-714 (1975). Keywords: n_2

E. K. Wheeler, R. Fluck, B. Woods, and P. K. Whitman, "Effect of surface degradation on optical performance of potassium dihydrogen phosphate optics," Appl. Opt. **42,** 5545-5550 (2003). Keywords: damage

X. Yang, Z. Xu, Y. Leng, H. Lu, L. Lin, Z. Zhang, R. Li, W. Zhang, D. Yin, and B. Tang, "Multiterawatt laser system based on optical parametric chirped pulse amplification," Opt. Lett. **27,** 1135-1137 (2002). Keywords: chirped pulse amplification, efficiency, femtosecond, OPA

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, "Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction," Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

H. Yoshida, T. Jitsuno, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, and K. Yoshida, "Investigation of bulk laser damage in KDP crystal as a function of laser irradiation direction, polarization, and wavelength," Appl. Phys. B **70,** 195-201 (2000). Keywords: damage

KD^*P:

N. F. Andreev, V. I. Bespalov, V. I. Bredikhin, S. G. Garanin, V. N. Ginzburg, K. L. Dvorkin, E. V. Katin, A. I. Korytin, V. V. Lozhkarev, O. V. Palashov, N. N. Rukavishnikov, A. M. Sergeev, S. A. Sukharev, G. I. Freidman, E. A. Khazanov, and I. V. Yakovlev, "New scheme of a petawatt laser based on nondegenerate parametric amplification of chirped pulses in KDKP crystals," JETP Lett. **79,** 144-147 (2004). Keywords: bandwidth, chirped pulse amplification, femtosecond, group velocity, OPA

A. K. Burnham, M. Runkel, M. D. Feit, A. M. Rubenchik, R. L. Floyd, T. A. Land, W. J. Siekhaus, and R. A. Hawley-Fedder, "Laser-induced damage in deuterated potassium dihydrogen phosphate," Appl. Opt. **42,** 5483-5495 (2003). Keywords: damage, nanosecond

C. W. Carr and J. M. Auerbach, "Effect of multiple wavelengths on laser-induced damage in $KH_{(2-x)}D_xPO_4$," Opt. Lett. **31,** 595-597 (2006). Keywords: damage, nanosecond, sum-frequency

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, $MgO:LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

G. C. Ghosh and G. C. Bhar, "Temperature dispersion in ADP, KDP, and KD^*P for nonlinear devices," IEEE J. Quant. Electron. **QE-18,** 143-145 (1982). Keywords: difference-frequency, phasematch, Sellmeier, temperature tuning

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

D. A. V. Kliner, F. Di Teodoro, J. P. Koplow, S. W. Moore, and A. V.Smith, "Efficient second, third, fourth, and fifth harmonic generation of a Yb-doped fiber amplifier," Opt. Comm. **210,** 393-398 (2002). Keywords: efficiency, nanosecond, sum-frequency

I. A. Kulagin, R. A. Ganeev, R. I. Tugushev, A. I. Ryasnyansky, and T. Usmanov, "Analysis of third-order nonlinear susceptibilities of quadratic nonlinear optical crystals," J. Opt. Soc. B **23,** 75-80 (2006). Keywords: n_2

C. D. Marshall, S. A. Payne, M. A. Henesian, J. A. Speth, and H. T. Powell, "Ultraviolet-induced transient absorption in potassium dihydrogen phosphate and its influence on frequency conversion," J. Opt. Soc. Am. B **11,** 774-785 (1994). Keywords: two-photon absorption

R. A. Negres, P. DeMange, and S. G. Demos, "Investigation of laser annealing parameters for optimal laser-damage performance in deuterated potassium dihydrogen phosphate," Opt. Lett. **30,** 2766-2768 (2005). Keywords: damage

M. A. Norton, D. Eimerl, C. A. Ebbers, S. P. Velsko, and C. S. Petty, "KD*P frequency doubler for high average power applications," SPIE **1223,** 75-83 (1990). Keywords: Absorption, thermal conductivity, efficiency

H. Zhu, T. Wang, W. Zheng, P. Yuan, L. Qian, and D. Fan, "Efficient second harmonic generation of femtosecond laser at 1 μm," Opt. Exp. **12,** 2150-2155 (2004). Keywords: bandwidth, efficiency, femtosecond, phasematch, sum-frequency

KDP:Rb:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

KIO_3:

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

$(K_2O)_{.3}(Li_2O)_{.7-x}(Nb_2O_5)_x$ (KLN):

T. C. Chong, X. W. Xu, G. Y. Zhang, and H. Kumagai, "Blue SHG characteristics and homogeneity of the TGSS grown potassium lithium niobate (KLN) crystal with high Li_2O content," J. Crystal Growth **225,** 489-494 (2001). Keywords: bandwidth, crystal growth, crystal structure, efficiency, sum-frequency, temperature-bandwidth, temperature tuning

Y. Wan, X. Guo, J. Chen, X. Yuan, J. Chu, and J. Li, "Optical properties of nonlinear potassium lithium niobate crystals," J. Cryst. Growth **235,** 248-252 (2002). Keywords: crystal growth, crystal structure, efficiency, sum-frequency

X. W. Xu, T. C. Chong, G. Y. Zhang, and H. Kumagai, "Influence of [K]/[Li] and [Li]/[Nb] ratios in melts on the TGSS growth and SHG characteristics of potassium lithium niobate crystals," J. Crystal Growth **225,** 458-464 (2001). Keywords: compositional tuning, crystal growth, crystal structure, efficiency, phasematch, sum-frequency

$K_{1-y}Li_yTa_xNb_{1-x}O_3$ (KLTN):

Y. Furukawa, S. Makio, T. Miyai, M. Sato, H. Kitayama, Y. Urata, T. Tamiuchi, and T. Fukuda, "Growth and characterization of $K_3Li_2(Ta_xNb_{1-x})_5O_{15}$ crystals for blue second-harmonic-generation applications," Appl. Phys. Lett. **68,** 744-746 (1996). Keywords: efficiency, sum-frequency, transmission

X. Tong, M. Zhang, A. Yariv, R. Hofmeister, and V. Leyva, "Near infrared absorption and dark conductivity of $K_{1-y}Li_yTa_xNb_{1-x}O_3$ crystal," Appl. Phys. Lett. **69,** 479-481 (1996). Keywords: conductivity, transmission

$KNbB_2O_6$ (KNB):

J. F. H. Nicholls, B. Henderson, and B.H. T. Chai, "Structure and optical properties of the $RbNbB_2O_6$ family of mixed borates," Opt. Materials **8,** 215-226 (1997). Keywords: crystal structure, Sellmeier.

J. F. H. Nicholls, B. Henderson, and B.H. T. Chai, "The nonlinear optical properties of the XYB_2O_6 family of compounds," Opt. Materials **16,** 453-462 (2001). Keywords: acceptance angle, crystal structure, damage, d_{ij}, phase match, sum-frequency, transmission

$KNbO_3$:

B. Agate, A. J. Kemp, C. T. A. Brown, and W. Sibbett, "Efficient, high repetition-rate femtosecond blue source using a compact Cr:LiSAF laser," Opt. Exp. **10,** 824-831 (2002). Keywords: bandwidth, efficiency, femtosecond, M^2, phasematch, sum-frequency, temperature-bandwidth

B. Agate, E. U. Rafailov, W. Sibbett, S. M. Saltiel, K. Koynov, M. Tiihonen, S. Wang, F. Laurell, P. Battle, T. Fry, T. Roberts, and E. Noonan, "Portable ultrafast blue light sources designed with frequency doubling in KTP and $KNbO_3$," IEEE J. Sel. Top. Quant. Electron. **10,** 1268-1276 (2004). Keywords: bandwidth, efficiency, femtosecond, M^2, quasiphasematch, sum-frequency, two-photon absorption, waveguides

J.-C. Baumert, J. Hoffnagle, and P. Gunter, "Nonlinear optical effects in $KNbO_3$ crystals at $Al_xGa_{1-x}As$, dye, ruby, and Nd:YAG laser wavelengths," SPIE **492,** 374-385 (1984). Keywords: d_{ij}, efficiency, phasematch, sum-frequency, temperature tuning

I. Biaggio, P. Kerkoc, L.-S. Wu, P. Gunter, and B. Zysset, "Refractive indices of orthorhombic $KNbO_3$. II. Phase-matching configurations for nonlinear-optical interactions," J. Opt. Soc. Am. B **9,** 507-517 (1992). Keywords: phasematch, walkoff, d_{eff}, OPO

W. R. Bosenberg and R. H. Jarman, "Type-II phase-matched $KNbO_3$ optical parametric oscillator," Opt. Lett. **18,** 1323-1325 (1993). Keywords: OPO, phasematch

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

O. S. Brozek, V. Quetschke, A. Wicht, and K. Danzmann, "Highly efficient cw frequency doubling of 854 nm GaAlAs diode lasers in an external ring cavity," Opt. Comm. **146,** 141-146 (1998). Keywords: efficiency

S. Chang, C.-C. Hsu, T.-H. Huang, S.-W. Lin, C.-Y. Leaung, and T.-T. Liu, "Heterodyne interferometric measurement of the thermo-optic coefficients of potassium niobate," J. Appl. Phys. **84,** 1825-1829 (1998). Keywords: temperature tuning, thermal expansion

X. B. Chen, L. Wang, J. G. Zhu, L. B. Lv, Z. G. Zhang, G. Z. Yang, W. M. Du, and D. Z. Zhang, "Study of diode-laser pumped self-Q-switched intracavity-doubled laser of $Cr^{4+}Nd^{3+}$:YAG plus $KNbO_3$ material," Opt. Eng. **43,** 1350-1354 (2004). Keywords: efficiency, nanosecond, sum-frequency

M. K. Chun, L. Goldberg, and J. F. Weller, "Second-harmonic generation at 421 nm using injection-locked GaAlAs laser array and $KNbO_3$," Appl. Phys. Lett. **53,** 1170-1171 (1988). Keywords: temperature bandwidth, efficiency

S. Cussat-Blanc, A. Ivanov, D. Lupinski, and E. Freysz, "$KTiOPO_4$, $KTiOAsO_4$, and $KNbO_3$ crystals for mid-infrared femtosecond optical parametric amplifiers: analysis and comparison," Appl. Phys. B **70,** S247-S252 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA, phasematch

M. F. DeCamp and A. Tokmakoff, "Upconversion multichannel infrared spectrometer," Opt. Lett. **30,** 1818-1820 (2005). Keywords: bandwidth, efficiency, femtosecond, sum-frequency

U. Ellenberger, R. Weber, J. E. Balmer, B. Zysset, D. Ellgehausen, and G. J. Mizell, "Pulsed optical damage threshold of potassium niobate," Appl. Opt. **31,** 7563-7569 (1992). Keywords: damage

C. J. Fecko, J. J. Loparo, and A. Tokmakoff, "Generation of 45 femtosecond pulses at 3 μm with a $KNbO_3$ optical parametric amplifier," Opt. Comm. **241,** 521-528 (2004). Keywords: femtosecond, OPA

D. Fluck and P. Gunter, "Efficient generation of CW blue light by sum-frequency mixing of laser diodes in $KNbO_3$," Opt. Comm. **136,** 257-260 (1997). Keywords: efficiency, M^2, sum-frequency mixing

L. K. Friess, V. Wesemann, A. Robertson, and J. A. L'huillier, "Single shot method for a quantitative spatially resolved investigation of the homogeneity of the birefringence of nonlinear optical crystals," Appl. Phys. Lett. **90,** 141111-1-3 (2007). Keywords: sum-frequency

G. Ghosh, "Dispersion of thermo-optic coefficients in a potassium niobate nonlinear crystal," Appl. Phys. Lett. **65,** 3311 (1995). Keywords: temperature tuning, Sellmeier

L. Goldberg and D. A. V. Kliner, "Deep-uv generation by frequency quadrupling of a high-power GaAlAs semiconductor laser," Opt. Lett. **20,** 1145-1147 (1995). Keywords: efficiency, picosecond, sum-frequency

L. Goldberg and D. A. V. Kliner, "Tunable uv generation at 286 nm by frequency tripling of a high-power mode-locked semiconductor laser," Opt. Lett. **20,** 1640-1642 (1995). Keywords: efficiency, picosecond, sum-frequency

D. Guzun, Y. Li, and M. Xiao, "Blue light generation in single-pass frequency doubling of femtosecond pulses in $KnbO_3$," Opt. Comm. **180,** 367-371 (2000). Keywords: efficiency, femtosecond, sum-frequency

J. Hirohashi, V. Pasiskevicius, S. Wang, and F. Laurell, "Picosecond blue-light-induced infrared absorption in single-domain and periodically poled ferroelectrics," J. Appl. Phys. **101,** 033105 (2007). Keywords: damage, transmission

B. G. Klappauf, Y. Bidel, D. Wilkowski, T. Chaneliere, and R. Kaiser, "Detailed study of an efficient blue laser source by second-harmonic generation in a semimonolithic cavity for the cooling of strontium atoms," Appl. Opt. **43,** 2510-2527 (2004). Keywords: cw, efficiency, sum-frequency, temperature-bandwidth, transmission

J. P. Koplow, D. A. V. Kliner, and L. Goldberg, "Development of a narrow-band, tunable, frequency-quadrupled diode laser for uv absorption spectroscopy," Appl. Opt. **37,** 3954-3960 (1998). Keywords: efficiency, picosecond, sum-frequency

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

Y. Li, D. Guzun, G. Salamo, and M. Xiao, "High-efficiency blue-light generation by frequency doubling of picosecond pulses in a thick $KNbO_3$ crystal," J. Opt. Soc. Am. B **20,** 1285-1289 (2003). Keywords: bandwidth, efficiency, group velocity, picosecond, sum-frequency

D. A. V. Kliner, J. P. Koplow, and L. Goldberg, "Narrow-band, tunable, semiconductor-laser-based source for deep-uv absorption spectroscopy," Opt. Lett. **22,** 1418-1420 (1997). Keywords: cw, efficiency, sum-frequency

J. T. Lin, "Recent advances of nonlinear crystals for frequency converters," SPIE **1104,** 23-32 (1989). Keywords: phasematch, d_{eff}, walkoff, temperature bandwidth, acceptance angle

P. Lodahl, J. L. Sorensen, and E. S. Polzik, "High efficiency second harmonic generation with a low power diode laser," Appl. Phys. B **64,** 383-386 (1997). Keywords: efficiency, transmission, two-photon absorption

A. D. Ludlow, H. M. Nelson, and S. D. Bergeson, "Two-photon absorption in potassium niobate," J. Opt. Soc. Am. B **18,** 1813-1820 (2001). Keywords: sum-frequency, transmission, two-photon absorption

Y. Lutz, D. Rytz, and A. Hirth, "Characterization of $KNbO_3$ crystal for frequency doubling of a tunable pulsed near-infrared laser," Opt. Lett. **20,** 1946-1948 (1995). Keywords: damage, efficiency, temperature bandwidth

H. Mabuchi, E. S. Polzik, and H. J. Kimble, "Blue-light-induced infrared absorption in $KNbO_3$," J. Opt. Soc. Am. B **11,** 2023-2029 (1994). Keywords: transmission

D. de A. Manoel, D. S. L. Figueira, D. Pereira, and F. C. Cruz, "Single-frequency blue light source based on optically injected diode lasers," Opt. Eng. **43,** 1311-1313 (2004). Keywords: cw, efficiency, sum-frequency

J.-P. Meyn, M. E. Klein, D. Woll, R. Wallenstein, and D. Rytz, "Periodically poled potassium niobate for second-harmonic generation at 463 nm," Opt. Lett. **24,** 1154-1156 (1999). Keywords: bandwidth, d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

D. Mondelain, A. Thomasson, E. Frejafon, V. Boutou, B. Vezin, and J.-P. Wolf, "Frequency agile infrared lidar based on a nontracking $KNbO_3$ optical parametric oscillator," Appl. Opt. **39,** 3620-3625 (2000). Keywords: bandwidth, efficiency, OPO, phasematch, pump tuning

P. Mounaix, L. Sarger, J. P. Caumes, and E. Freysz, "Characterization of non-linear potassium crystals in the terahertz frequency domain," Opt. Comm. **242,** 631-639 (2004). Keywords: THz, transmission

P. Rambaldi, M. Douard, B. Vezin, J. P. Wolf, and D. Rytz, "Broadly tunable $KNbO_3$ OPOs pumped by Ti:sapphire lasers," Opt. Comm. **142,** 262-264 (1997). Keywords: efficiency, OPO, phasematch

V. Ruseva and J. Hald, "High-power 457-nm light source by frequency doubling of an amplified diode laser," Appl. Opt. **42,** 5500-5507 (2003). Keywords: cw, efficiency, M^2, sum-frequency, transmission

W. Seelert, P. Kortz, D. Rytz, B. Zysset, D. Ellgehausen, and G. Mizell, "Second-harmonic generation and degradation in critically phase-matched $KNbO_3$ with a diode-pumped Q-switched Nd:YLF laser," Opt. Lett. **17,** 1432-1434 (1992). Keywords: damage, efficiency, temperature-bandwidth

M. Sheik-Bahae and M. Ebrahimzadeh, "Measurements of nonlinear refraction in the second-order $\chi^{(2)}$ materials $KTiOPO_4$, $KNbO_3$, β-BaB_2O_4, and LiB_3O_5," Opt. Comm. **142,** 294-298 (1997). Keywords: n_2

S. Shichijyo, J. Hirohashi, H. Kamio, and K. Yamada, "Wide acceptance angle of second-harmonic green generation by periodically poled potassium niobate," Jap. J. Appl. Phys. **43,** 2501-2503 (2004). Keywords: acceptance angle, crystal growth, cw, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature tuning

L. Shiv, J. L. Sorensen, E. S. Polzik, and G. Mizell, "Inhibited light-induced absorption in $KNbO_3$," Opt. Lett. **20,** 2270 (1995). Keywords: damage

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

D. E. Spence, S. Wielandy, C. L. Tang, C. Bosshard, and P. Gunter, "High-repetition-rate femtosecond optical parametric oscillator based on $KNbO_3$," Opt. Lett. **20,** 680-682 (1995). Keywords: chirp, efficiency, femtosecond, OPO, phasematch, walkoff angle

D. E. Spence, S. Wielandy, C. L. Tang, C. Bosshard, and G. P. Gunter, "High average power, high-repetition rate femtosecond pulse generation in the 1-5 μm region using an optical parametric oscillator," Appl. Phys. Lett. **68,** 452-454 (1996). Keywords: efficiency, femtosecond, OPO, phasematch

X. Tong, A. Yariv, M. Zhang, and A. Agranat, "Three dimensional polarization dependence of OH bands absorption in potassium niobate crystals," Appl. Phys. Lett. **70,** 429-431 (1997). Keywords: transmission

Y. Uematsu, "Nonlinear optical properties of $KNbO_3$ single crystal in the orthorhombic phase," Jap. J. Appl. Phys. **13,** 1362-1368 (1974). Keywords: Sellmeier, d_{ij}, dn/dT

N. Umemura, K. Yoshida, and K. Kato, "Phase-matching properties of $KnbO_3$ in the mid-infrared," Appl. Opt. **38,** 991-994 (1999). Keywords: phasematch, Sellmeier, transmission

R. Urschel, A. Fix, R. Wallenstein, D. Rytz, and B. Zysset, "Generation of tunable narrow-band midinfrared radiation in a type I potassium niobate optical parametric oscillator," J. Opt. Soc. Am. B **12,** 726-730 (1995). Keywords: OPO, phasematch, efficiency, bandwidth

E. Wiesendanger, "Optical properties of $KNbO_3$," Ferroelectrics **1,** 141-148 (1970). Keywords: n(T), Sellmeier

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

N. E. Yu, S. Kurimura, K. Kitamura, O.-Y. Jeon, M. Cha, S. Ashihara, T. Ohta, T. Shimura, K. Kuroda, J. Hirohashi, "Efficient second-harmonic generation of ultrafast pulses in periodically poled $KNbO_3$," Appl. Phys. Lett. **85,** 5839-5841 (2004). Keywords: efficiency, femtosecond, group velocity, quasiphasematch, sum-frequency, temperature-bandwidth

H. H. Zenzie and P. F. Moulton, "Tunable optical parametric oscillators pumped by Ti:sapphire lasers," Opt. Lett. **19,** 963-965 (1994). Keywords: OPO, phasematch, efficiency

B. Zysset, I. Biaggio, and P. Gunter, "Refractive indices of orthorhombic $KNbO_3$. I. Dispersion and temperature dependence," J. Opt. Soc. Am. B **9,** 380-386 (1992). Keywords: n(T), dn/dT

$KTiOAsO_4$ (KTA):

J. D. Bierlein, H. Vanherzeele, and A. A. Ballman, "Linear and nonlinear optical properties of flux-grown $KTiOAsO_4$," Appl. Phys. Lett. **54,** 783-785 (1989). Keywords: phasematch, acceptance angle

W. R. Bosenberg, L. K. Cheng, and J. D. Bierlein, "Optical parametric frequency conversion properties of $KTiOAsO_4$," Appl. Phys. Lett. **65,** 2765 (1994). Keywords: phasematch, damage, efficiency

B. Boulanger, J. P. Feve, G. Marnier, and B. Menaert, "Methodology for optical studies of nonlinear crystals: application to the isomorph family $KTiOPO_4$, $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," Pure Appl. Opt. **7,** 239-256 (1998). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, walkoff angle

L. K. Cheng, L.-T. Cheng, J. D. Bierlein, and F. C. Zumsteg, "Properties of doped and undoped crystals of single domain $KTiOAsO_4$," Appl. Phys. Lett. **62,** 346-348 (1993). Keywords: acceptance angle, Sellmeier

L. K. Cheng, L. T. Cheng, J. Galperin, P. A. Morris Hotsenpiller, and J. D. Bierlein, "Crystal growth and characterization of $KTiOPO_4$ isomorphs from the self-fluxes," J. Crystal Growth **137,** 107-115 (1994). Keywords: d_{ij}, Sellmeier

S. Cussat-Blanc, A. Ivanov, D. Lupinski, and E. Freysz, "$KTiOPO_4$, $KTiOAsO_4$, and $KNbO_3$ crystals for mid-infrared femtosecond optical parametric amplifiers: analysis and comparison," Appl. Phys. B **70,** S247-S252 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA, phasematch

S. Emanueli and A. Arie, "Temperature-dependent dispersion equations for $KTiOPO_4$ and $KTiOAsO_4$," Appl. Opt. **42,** 6661-6665 (2005). Keywords: temperature tuning, thermal expansion

J.-P. Feve, B. Boulanger, O. Pacaud, I. Rousseau, B. Menaert, G. Marnier, P. Villeval, C. Bonnin, G. M. Loiacono, and D. N. Loiacono, "Phase-matching measurements and Sellmeier equations over the complete transparency range of $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," J. Opt. Soc. Am. B **17,** 775-780 (2000). Keywords: difference frequency, phasematch, Sellmeier, sum-frequency

Z. G. Figen and O. Aytur, "Nanosecond sum-frequency generating optical parametric oscillator using simultaneous phase matching," Opt. Exp. **13,** 4896-4902 (2005). Keywords: efficiency, nanosecond, OPO, phasematch, sum-frequency

K. Fradkin-Kashi, A. Arie, P. Urenski, and G. Rosenman, "Mid-infrared difference-frequency generation in periodically poled $KTiOAsO_4$ and application to gas sensing," Opt. Lett. **25,** 743-745 (2000). Keywords: bandwidth, difference-frequency, efficiency, ferroelectric poling, quasiphasematch, Sellmeier, temperature-bandwidth, temperature tuning

S. French, M. Ebrahimzadeh, and A. Miller, "High-power, high-repetition-rate picosecond optical parametric oscillator for the near- to mid-infrared," Opt. Lett. **21,** 131 (1996). Keywords: efficiency, OPO, phasematch, picosecond

S. French, A. Miller, M. Ebrahimzadeh, "Picosecond near- to mid-infrared optical parametric oscillator using $KtiOAsO_4$," Opt. and Quant. Electron. **29,** 999-1021 (1997). Keywords: bandwidth, efficiency, OPO, phasematch, picosecond, pump tuning

G. Hansson, H. Karlsson, S. Wang, and F. Laurell, "Transmission measurements in KTP and isomorphic compounds," Appl. Opt. **39,** 5058-5069 (2000). Keywords: transmission

T. Kartaloglu and O. Aytur, "Femtosecond self-doubling optical parametric oscillator based on $KTiOAsO_4$," IEEE J. Quant. Electron. **39,** 65-67 (2003). Keywords: bandwidth, efficiency, femtosecond, OPO, sum-frequency

K. Kato, "Second-harmonic and sum-frequency generation in $KTiOAsO_4$," IEEE J. Quant. Electron. **30,** 881-883 (1994). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, sum-frequency

A. H. Kung, "Efficient conversion of high-power narrow-band Ti:sapphire laser radiation to the mid-infrared in $KTiOAsO_4$," Opt. Lett. **20,** 1107-1109 (1995). Keywords: difference frequency, efficiency, transmission

G. M. Loiacono, D. N. Loiacono, T. McGee, and M. Babb, "Laser damage formation in $KTiOPO_4$ and $KTiOAsO_4$ crystals: grey tracks," J. Appl. Phys. **72,** 2705-2712 (1992). Keywords: damage

H. P. Li, C. H. Kam, Y. L. Lam, and W. Ji, "Femtosecond Z-scan measurements of nonlinear refraction in nonlinear optical crystals," Opt. Mat. **15,** 237-242 (2001). Keywords: femtosecond, n_2, two-photon absorption

H. P. Li, C. H. Kam, Y. L. Lam, F. Zhou, and W. Ji, "Nonlinear refraction of undoped and Fe-doped $KTiOAsO_4$ crystals is the femtosecond regime," Appl. Phys. B **70,** 385-388 (2000). Keywords: femtosecond, n_2, two-photon absorption

C. McGowan, D. T. Reid, M. Ebrahimzadeh, and W. Sibbett, "Femtosecond pulses tunable beyond 4 μm from a KTA-based optical parametric oscillator," Opt. Comm. **134,** 186-190 (1997). Keywords: bandwidth, efficiency, femtosecond, OPO, phasematch

P. Mounaix, L. Sarger, J. P. Caumes, and E. Freysz, "Characterization of non-linear potassium crystals in the terahertz frequency domain," Opt. Comm. **242,** 631-639 (2004). Keywords: THz, transmission

X. Peng, L. Xu, and A. Asundi, "Highly efficient high-repetition-rate tunable all-solid-state optical parametric oscillator," IEEE J. Quant. Electron. **41,** 53-61 (2005). Keywords: efficiency, nanosecond, OPO

V. Petrov, F. Noack, and R. Stolzenberger, "Seeded femtosecond optical parametric amplification in the mid-infrared spectral region above 3μm," Appl. Opt. **36,** 1164-1172 (1997). Keywords: acceptance angle, d_{eff}, damage, femtosecond, group velocity

P. E. Powers, R. J. Ellingson, W. S. Pelouch, and C. L. Tang, "Recent advances of the Ti:sapphire-pumped high-repetition-ratte femtosecond optical parametric oscillator," J. Opt. Soc. Am. B **10,** 2162-2167 (1993). Keywords: femtosecond, OPO, walkoff, phasematch

P. E. Powers, S. Ramakrishna, C. L. Tang, and L. K. Cheng, "Optical parametric oscillation with $KTiOAsO_4$," Opt. Lett. **18,** 1171-1173 (1993). Keywords: femtosecond

D. T. Reid, C. McGowan, M. Ebrahimzadeh, and W. Sibbett, "Characterization and modeling of a noncollinearly phase-matched femtosecond optical parametric oscillator based on KTA and operating to beyond 4 μm," IEEE J. Quant. Electron. **33,** 1-9 (1997). Keywords: bandwidth, efficiency, femtosecond, OPO, phasematch

M. Roth, M. Tseitlin, and N. Angert, "Composition-dependent electro-optic and nonlinear optical properties of KTP-family crystals," Opt. Mater. **28,** 71-76 (2006). Keywords: crystal growth, damage

B. Ruffing, A. Nebel, and R. Wallenstein, "All-solid-state cw mode-locked picosecond $KTiOAsO_4$ (KTA) optical parametric oscillator," Appl. Phys. B **67,** 537-544 (1998). Keywords: efficiency, OPO, picosecond

G. Veitas, R. Danielius, and E. Schreiber, "Efficient generation of $<3\text{-cm}^{-1}$ bandwidth mid-IR pulses by difference-frequency mixing of chirped pulses," J. Opt. Soc. Am. B **19,** 1411-1418 (2002). Keywords: bandwidth, chirp, chirped pulse amplification, d_{eff}, difference-frequency, efficiency, OPA, picosecond, transmission

M. S. Webb, P. F. Moulton, J. J. Kasinski, R. L. Burnham, G. Loiacono, and R. Stolzenberger, "High-average-power $KTiOAsO_4$ optical parametric oscillator," Opt. Lett. **23,** 1161-1163 (1998). Keywords: damage, efficiency, M^2, OPO, transmission

R. F. Wu, K. S. Lai, H. F. Wong, W. J. Xie, Y. L. Lim, and E. Lau, "Multiwatt mid-IR output from a Nd:YALO laser pumped intracavity KTA OPO," Opt. Express **8,** 694-698 (2001). Keywords: efficiency, OPO

Z. Zhong, P. K. Gallagher, D. L. Loiacono, and G. M. Loiacono, "The thermal expansion and stability of $KTiOAsO_4$ and related compounds," Thermochimica Acta **234,** 255-261 (1993). Keywords: thermal expansion

$KTiOPO_4$ (KTP):

B. Agate, E. U. Rafailov, W. Sibbett, S. M. Saltiel, P. Battle, T. Fry, and E. Noonan, "Highly efficient blue-light generation from a compact, diode-pumped femtosecond laser by use of a periodically poled KTP waveguide crystal," Opt. Lett. **28,** 1963-1965 (2003). Keywords: efficiency, d_{eff}, femtosecond, quasiphasematch, sum-frequency, waveguides

B. Agate, E. U. Rafailov, W. Sibbett, S. M. Saltiel, K. Koynov, M. Tiihonen, S. Wang, F. Laurell, P. Battle, T. Fry, T. Roberts, and E. Noonan, "Portable ultrafast blue light sources designed with frequency doubling in KTP and $KNbO_3$," IEEE J. Sel. Top. Quant. Electron. **10,** 1268-1276 (2004). Keywords: bandwidth, efficiency, femtosecond, M^2, quasiphasematch, sum-frequency, two-photon absorption, waveguides

A. Agnesi, S. Dell'Acqua, and G. Reali, "Diode-pumped quasi-cw intracavity optical parametric oscillator at 1.57 μm with efficient pulse shortening," Appl. Phys. B **70,** 751-753 (2000). Keywords: efficiency, M^2, OPO

A. Anema and T. Rasing, "Relative signs of the nonlinear coefficients of potassium titanyl phosphate," Appl. Opt. **36,** 5902-5904 (1997). Keywords: d_{eff}, d_{ij}, phasematch

N. B. Angert, V. M. Garmash, N. I. Pavlova, and A. V. Tarasov, "Influence of color centers on the optical properties of KTP crystals and on the efficiency of the laser radiation frequency conversion in these crystals," Sov. J. Quant. Electron. **21,** 426-428 (1991). Keywords: transmission, damage

K. Akagawa, S. Wada, and H. Tashiro, "High-speed optical parametric oscillator pumped with an electronically tuned Ti:sapphire laser," Appl. Phys. Lett. **70,** 1213-1215 (1997). Keywords: OPO, pump tuned

A. Arie, G. Rosenman, V. Mahal, A. Skliar, M. Oron, M. Katz, and D. Eger, "Green and ultraviolet quasi-phase-matched second harmonic generation in bulk periodically-poled $KTiOPO_4$," Opt. Comm. **142,** 265-268 (1997). Keywords: efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth, temperature tuning

G. Arisholm, E. Lippert, G. Rustad, and K. Stenersen, "Efficient conversion from 1 to 2 μm by a KTP-based ring optical parametric oscillator," Opt. Lett. **27,** 1336-1338 (2002). Keywords: efficiency, M^2, nanosecond, OPO

D. J. Armstrong, W. J. Alford, T. D. Raymond, and A. V. Smith, "Absolute measurement of the effective nonlinearities of KTP and BBO crystals by optical parametric amplification," Appl. Opt. **35,** 2032-2040 (1996). Keywords: d_{eff}, d_{ij}, difference-frequency

J.-C. Baumert, F. M. Schellenberg, W. Lenth, W. P. Risk, and G. C. Bjorklund, "Generation of blue cw coherent radiation by sum frequency mixing in $KTiOPO_4$," Appl. Phys. Lett. **51,** 2192-2194 (1987). Keywords: bandwidth, acceptance angle

G. W. Baxter, P. Schlup, I. T. McKinnie, J. Hellstrom, and F. Laurell, "Single-mode near-infrared optical parametric oscillator amplifier based on periodically poled $KTiOPO_4$," Appl. Opt. **40,** 6659-6662 (2001). Keywords: efficiency, M^2, OPA, OPO, quasiphasematch

J. D. Bierlein, "Potassium titanyl phosphate (KTP): Properties, recent advances and new applications," SPIE **1104,** Growth, Characterization, and Applications of Laser Host and Nonlinear Crystals (1989). Keywords: acceptance angle, bandwidth, d_{ij}, phasematch, Sellmeier, temperature-bandwidth, thermal conductivity, thermal expansion, transmission, waveguides

J. D. Bierlein and F. Ahmed, "Observation and poling of ferroelectric domains in $KTiOPO_4$," Appl. Phys. Lett. **51,** 1322-1324 (1987). Keywords: ferroelectric poling

R. Blachman, P. F. Bordui, M. M. Fejer, "Laser-induced photochromic damage in potassium titanyl phosphate," Appl. Phys. Lett. **64,** 1318-1320 (1994). Keywords: transmission, damage

W. R. Bosenberg and D. R. Guyer, "Single-frequency optical parametric oscillator," Appl. Phys. Lett. **61,** 387-389 (1992). Keywords: OPO, bandwidth

B. Boulanger, J.-P. Feve, and Y. Guillien, "Thermo-optical effect and saturation of nonlinear absorption induced by gray tracking in a 532-nm-pumped KTP optical parametric oscillator," Opt. Lett. **25,** 484-486 (2000). Keywords: damage, efficiency, OPO, temperature tuning

B. Boulanger, J. P. Feve, G. Marnier, C. Bonnin, P. Villeval, and J. J. Zondy, "Absolute measurement of quadratic nonlinearities from phase-matched second-harmonic generation in a single KTP crystal cut as a sphere," J. Opt. Soc. Am. B **14,** 1380-1386 (1997). Keywords: d_{eff}, d_{ij}, sum-frequency

B. Boulanger, J. P. Feve, G. Marnier, and B. Menaert, "Methodology for optical studies of nonlinear crystals: application to the isomorph family $KTiOPO_4$, $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," Pure Appl. Opt. **7,** 239-256 (1998). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, walkoff angle

B. Boulanger, J. P. Feve, G. Marnier, B. Menaert, X. Cabirol, P. Villeval, and C. Bonnin, "Relative sign and absolute magnitude of $d^{(2)}$ nonlinear coefficients of KTP from second-harmonic-generation measurements," J. Opt. Soc. Am. B **11,** 750-757 (1994). Keywords: d_{ij}, d_{eff}, phasematch

B. Boulanger, P. Segonds, J.-P. Feve, O. Pacaud, B. Menaert, and J. Zaccaro, "Spheres and cylinders in parametric nonlinear optics," Opt. Mater. **26,** 459-464 (2004). Keywords: quasiphasematch

B. Bourliaguet, A. Mugnier, V. Kermene, A. Barthelemy, and C. Froehly, "Pulsed OPO brightness improvement by means of intracavity spatial filtering," Opt. Comm. **167,** 177-182 (1999). Keywords: efficiency, OPO

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

A. J. W. Brown, M. S. Bowers, K. W. Kangas, and C. H. Fisher, "High-energy, high-efficiency second-harmonic generation of 1064-nm radiation in KTP," Opt. Lett. **17,** 109-111 (1992). Keywords: efficiency

C. Canalias, J. Hirohashi, V. Pasiskevicius, and F. Laurell, "Polarization-switching characteristics of flux-grown $KTiOPO_4$ and $RbTiOPO_4$ at room temperature," J. Appl. Phys. **97,** 124105-1-9 (2005). Keywords: ferroelectric poling

C. Canalias, V. Pasiskevicius, R. Clemens, and F. Laurell, "Submicron periodically poled flux-grown $KTiOPO_4$," Appl. Phys. Lett. **82,** 4233-4235 (2003). Keywords: ferroelectric poling

C. Canalias, V. Pasiskevicius, M. Fokine, and F. Laurell, "Backward quasi-phase-matched second-harmonic generation in submicrometer periodically poled flux-grown KTiOPO$_4$," Appl. Phys. Lett. **86,** 181105-1-3 (2005). Keywords: ferroelectric poling, quasiphasematch, sum-frequency

L. Carrion and J.-P. Girardeau-Montaut, "Gray-track damage in potassium titanyl phosphate under a picosecond regime at 532 nm," Appl. Phys. Lett. **77,** 1074-1076 (2000). Keywords: damage, picosecond

P. A. Champert, S. V. Popov, A. V. Avdokhin, and J. R. Taylor, "Sum frequency generation of synchronously-seeded, high-power Yb and Er fiber amplifiers in periodically poled KTP," Appl. Phys. Lett. **81,** 3732-3734 (2002). Keywords: d_{eff}, efficiency, M^2, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

P. A. Champert, S. V. Popov, M. A. Solodyankin, and J. R. Taylor, "1.4-W red generation by frequency mixing of seeded Yb and Er fiber amplifiers," IEEE Phot. Tech. Lett. **14,** 1680-1682 (2002). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

P. A. Champert, S. V. Popov, and J. R. Taylor, "3.5 W frequency-doubled fiber-based laser source at 772 nm," Appl. Phys. Lett. **78,** 2420-2421 (2001). Keywords: bandwidth, d_{eff}, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

P. A. Champert, S. V. Popov, and J. R. Taylor, "Power scalability to 6 W of 770 nm source based on seeded fibre amplifier and PPKTP," Electr. Lett. **37,** (2001). Keywords: efficiency, quasiphasematch, sum-frequency, transmission

Y. F. Chen, "Stimulated Raman scattering in a potassium titanyl phosphate crystal: simultaneous self-sum frequency mixing and self-frequency doubling," Opt. Lett. **30,** 400-402 (2005). Keywords: nanosecond, Raman, sum-frequency

Y. F. Chen, S. W. Chen, S. W. Tsai, and Y. P. Lan, "High-repetition-rate eye-safe optical parametric oscillator intracavity pumped by a diode-pumped Q-switched Nd:YVO_4 laser," Appl. Phys. B **76,** 263-266 (2003). Keywords: efficiency, M^2, nanosecond, OPO

Y. F. Chen, Y. S. Chen, and S. W. Tsai, "Diode-pumped Q-switched laser with intracavity sum frequency mixing in periodically poled KTP," Appl. Phys. B **79,** 207-210 (2004). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

Y. F. Chen, S. W. Chen, L. Y. Tsai, Y. C. Chen, and C. H. Chien, "Efficient sub-nanosecond intracavity optical parametric oscillator pumped with a passively Q-switched Nd:$GdVO_4$ laser," Appl. Phys. B Keywords: efficiency, nanosecond, OPO

Q. Chen and W. P. Risk, "Periodic poling of $KTiOPO_4$ using an applied electric field," Electron. Lett. 13 July (1994). Keywords: ferroelectric poling

L. K. Cheng, L. T. Cheng, J. Galperin, P. A. Morris Hotsenpiller, and J. D. Bierlein, "Crystal growth and characterization of $KTiOPO_4$ isomorphs from the self-fluxes," J. Crystal Growth **137,** 107-115 (1994). Keywords: d_{ij}, Sellmeier

E. C. Cheung, K. Koch, and G.T. Moore, "Measurements of second-order nonlinear optical coefficients from the spectral brightness of parametric fluorescence," Opt. Lett. **19,** 168-170 (1994). Keywords: d_{eff}, d_{ij}, fluorescence

F. G. Colville, M. H. Dunn, and M. Ebrahimzadeh, "Continuous-wave, singly resonant, intracavity parametric oscillator," Opt. Lett. **22,** 75-77 (1997). Keywords: acceptance angle, bandwidth, chirp, conductivity, damage, d_{eff}, d_{ij}, difference-frequency, efficiency, OPO

D. W. Cooke, B. L. Bennett, R. E. Muenchausen, and D. M. Wayne, "Pyroelectrically induced optical emission from potassium titanyl phosphate crystals," Appl. Phys. Lett. **71,** 1338-1340 (1997). Keywords: damage

S. Cussat-Blanc, A. Ivanov, D. Lupinski, and E. Freysz, "$KTiOPO_4$, $KTiOAsO_4$, and $KNbO_3$ crystals for mid-infrared femtosecond optical parametric amplifiers: analysis and comparison," Appl. Phys. B **70,** S247-S252 (2000). Keywords: bandwidth, efficiency, femtosecond, group velocity, OPA, phasematch

G. Dhanaraj and H. L. Bhat, "X-ray diffraction and second harmonic generation studies on $KTiOPO_4$," Solid State Comm. **91,** 757-759 (1994). Keywords: efficiency

A. Dudelzak, P.-P. Proulx, V. Denks, V. Murk, and V. Nagirnyi, "Anisotropic fundamental absorption edge of $KTiOPO_4$ crystals," J. Appl. Phys. **87,** 2110-2113 (2000). Keywords: transmission

M. Ebrahimzadeh, G. A. Turnbull, T. J. Edwards, D. J. M. Stothard, I. D. Lindsay, and M. H. Dunn, "Intracavity continuous-wave singly resonant optical parametric oscillators," J. Opt. Soc. Am. B **16,** 1499-1511 (1999). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, MgO:$LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

T. J. Edwards, G. A. Turnbull, M. H. Dunn, M. Ebrahimzadeh, "Continuous-wave, singly-resonant, optical parametric oscillator based on periodically poled $KTiOPO_4$," Opt. Express **6,** 58-63 (2000). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

D. Eger, M. B. Oron, A. Bruner, M. Katz, Y. Tzuk, and A. Englander, "Doubling the frequency of depleted fundamental waves in periodically poled $KTiOPO_4$," Appl. Phys. Lett. **76,** 406-408 (2000). Keywords: d_{eff}, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth, n_2

S. Emanueli and A. Arie, "Temperature-dependent dispersion equations for $KTiOPO_4$ and $KTiOAsO_4$," Appl. Opt. **42,** 6661-6665 (2005). Keywords: temperature tuning, thermal expansion

A. Englander, R. Lavi, M. Katz, M. Oron, D. Eger, E. Lebiush, G. Rosenman, and A. Skliar, "Highly efficient doubling of a high-repetition-rate diode-pumped laser with bulk periodically poled KTP," Opt. Lett. **22,** 1598-1600 (1997). Keywords: bandwidth, d_{eff}, d_{ij}, efficiency, phasematch, quasiphasematch, sum-frequency, temperature-bandwidth

T. Y. Fan, C. E. Huang, B. Q. Hu, R. C. Eckardt, Y. X. Fan, R. L. Byer, and R. S. Feigelson, "Second harmonic generation and accurate index of refraction measurements in flux-grown $KTiOPO_4$," Appl. Opt. **26,** 2390-2394 (1987). Keywords: Sellmeier, phasematch, acceptance angle, efficiency, group velocity

G. R. Fayaz, M. Ghotbi, and M. Ebrahim-Zadeh, "Efficient second-harmonic generation of tunable femtosecond pulses into the blue in periodically poled KTP," Appl. Phys. Lett. **86,** 061110 (2005). Keywords: bandwidth, efficiency, femtosecond, group velocity, quasiphasematch, sum-frequency

S. Feng and O. Pfister, "Stable nondegenerate optical parametric oscillation at degenerate frequencies in Na:KTP," J. Opt. B: Quantum Semiclass. Opt. **5,** 262-267 (2003). Keywords: cw, efficiency, OPO, temperature-bandwidth

J. P. Feve, B. Boulanger, G. Marnier, and H. Albrecht, "Repetition rate dependence of gray-tracking in $KTiOPO_4$ during second-harmonic generation at 532 nm," Appl. Phys. Lett. **70,** 277-279 (1997). Keywords: damage, sum-frequency

J.-P. Feve, O. Pacaud, B. Boulanger, B. Menaert, J. Hellstrom, V. Pasiskevicius, and F. Laurell, "Widely and continuously tunable optical parametric oscillator based on a cylindrical periodically poled $KTiOPO_4$ crystal," Opt. Lett. **26,** 1882-1884 (2001). Keywords: bandwidth, d_{eff}, efficiency, OPO, quasiphasematch

J.-P. Feve, O. Pacaud, B. Boulanger, B. Menaert, and M. Renard, "Tunable phase-matched optical parametric oscillators based on a cylindrical crystal," J. Opt. Soc. Am. B **19,** 222-233 (2002). Keywords: efficiency, M^2, nanosecond, OPO, phasematch, walkoff angle

K. Finsterbusch, R. Urschel, and H. Zacharias, "Tunable, high-power, narrow-band picosecond IR radiation by optical parametric amplification in KTP," Appl. Phys. B **74,** 319-322 (2002). Keywords: bandwidth, efficiency, OPA, picosecond

M. Fiorentino, C. E. Kuklewicz, and F. N. C. Wong, "Source of polarization entanglement in a single periodically poled $KTiOPO_4$ crystal with overlapping emission cones," Opt. Exp. **13,** 127-135 (2005). Keywords: cw, OPG, quasiphasematch

A. Fragemann, V. Pasiskevicius, G. Karlsson, and F. Laurell, "High-peak power nanosecond optical parametric amplifier with periodically poled KTP," Opt. Exp. **11,** 1297-1302 (2003). Keywords: efficiency, flourescence, M^2, nanosecond, OPA, quasiphasematch

A. Fragemann, V. Pasiskevicius, and F. Laurell, "Second-order nonlinearities in the domain walls of periodically poled $KTiOPO_4$," Appl. Phys. Lett. **85,** 375-377 (2004). Keywords: d_{ij}, ferroelectric poling, nanosecond, phasematch, quasiphasematch, sum-frequency

Y. Furukawa, H. Sakata, and T. Yagi, "Sum-frequency generation in periodically poled $KTiOPO_4$ with large tolerances of temperature and wavelength," Jap. J. Appl. Phys. **43,** 5867-5870 (2004). Keywords: bandwidth, quasiphasematch, sum-frequency, temperature-bandwidth

A. Garashi, A. Arie, A. Skliar, and G. Rosenman, "Continuous-wave optical parametric oscillator based on periodically poled $KTiOPO_4$," Opt. Lett. **23,** 1739-1741 (1998). Keywords: efficiency, ferroelectric poling, OPO, quasiphasematch, temperature tuning

G. M. Gibson, M. Ebrahimzadeh, M. J. Padgett, and M. H. Dunn, "Continuous-wave optical parametric oscillator based on periodically poled $KTiOPO_4$ and its application to spectroscopy," Opt. Lett. **24,** 397-399 (1999). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

G. M. Gibson, G. A. Turnbull, M. Ebrahimzadeh, M. H. Dunn, H. Karlsson, G. Arvidson, and F. Laurell, "Temperature-tuned difference-frequency mixing in periodically poled $KTiOPO_4$," Appl. Phys. B **67,** 675-677 (1998). Keywords: d_{eff}, difference-frequency, efficiency, ferroelectric poling, quasiphasematch, temperature-bandwidth, temperature tuning

S. Greenstein and M. Rosenbluh, "Dynamics of cw intra-cavity second harmonic generation by PPKTP," Opt. Comm. **238,** 319-327 (2004). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

U. J. Greiner and H. H. Klingenberg, "Picosecond intracavity optical parametric oscillator," Opt. Lett. **22,** 43-45 (1997). Keywords: efficiency, picosecond

Y. Hadjar, F. Ducos, and O. Acef, "Stable 120-mW green output tunable over 2 THz by a second-harmonic generation process in a KTP crystal at room temperature," Opt. Lett. **25,** 1367-1369 (2000). Keywords: d_{eff}, efficiency, sum-frequency

L. E. Halliburton and M. P. Scripsick, "Mechanisms and point defects responsible for the formation of gray tracks in KTP," SPIE **2379,** 235-244 (1995). Keywords: transmission, damage

G. Hansson, H. Karlsson, S. Wang, and F. Laurell, "Transmission measurements in KTP and isomorphic compounds," Appl. Opt. **39,** 5058-5069 (2000). Keywords: transmission

K. Hayasaka, Y. Zhang, and K. Kasai, "Generation of 22.8 mW single-frequency green light by frequency doubling of a 50-mW diode laser," Opt. Exp. **12,** 3567-3572 (2004). Keywords: cw, efficiency, sum-frequency, temperature-bandwidth

J. Hebling, X. P. Zhang, H. Giessen, J. Kuhl, and J. Seres, "Pulse characteristics of an optical parametric oscillator pumped by sub-30-fs light pulses," Opt. Lett. **25,** 1055-1057 (2000). Keywords: bandwidth, efficiency, femtosecond, OPO

J. Hellstrom, G. Karlsson, V. Pasiskevicius, and F. Laurell, "Optical parametric amplification in periodically poled $KTiOPO_4$ seeded by an Er-Yb:glass microchip laser," Opt. Lett. **26,** 352-254 (2001). Keywords: bandwidth, d_{eff}, efficiency, M^2, OPF, OPG, OPO, quasiphasematch, temperature tuning

J. Hellstrom, V. Pasiskevicius, H. Karlsson, and F. Laurell, "High-power optical parametric oscillation in large-aperture periodically poled $KTiOPO_4$," Opt. Lett. **25,** 174-176 (2000). Keywords: d_{eff}, efficiency, ferroelectric poling, M^2, OPO, quasiphasematch

J. Hellstrom, V. Pasiskevicius, F. Laurell, and H. Karlsson, "Efficient nanosecond optical parametric oscillators based on periodically poled KTP emitting in the 1.8-2.5-μm spectral region," Opt. Lett. **24,** 1233-1235 (1999). Keywords: d_{eff}, efficiency, OPO, quasiphasematch, temperature tuning

T. Hirano, K. Kotani, T. Ishibashi, S. Okude, and T. Kuwamoto, "3 dB squeezing by single-pass parametric amplification in a periodically poled $KTiOPO_4$ crystal," Opt. Lett. **30,** 1722-1724 (2005). Keywords: OPA, picosecond, quasiphasematch

Y. Hirano, N. Pavel, S. Yamamoto, Y. Koyata, and T. Tajime, "100-W, 100-h external green generation with Nd:YAG rod master-oscillator power-amplifier system," Opt. Comm. **184,** 231-236 (2000). Keywords: damage, efficiency, sum-frequency

J. Hirohashi, V. Pasiskevicius, S. Wang, and F. Laurell, "Picosecond blue-light-induced infrared absorption in single-domain and periodically poled ferroelectrics," J. Appl. Phys. **101,** 033105 (2007). Keywords: damage, transmission

S. J. Holmgren, V. Pasiskevicius, S. Wang, and F. Laurell, "Three-dimensional characterization of the effective second-order nonlinearity in periodically poled crystals," Opt. Lett. **28,** 1555-1557 (2003). Keywords: d_{eff}, d_{ij}, femtosecond, quasiphasematch, sum-frequency

X. B. Hu, H. Liu, J. Y. Wang, H. J. Zhang, H. D. Jiang, S. S. Jiang, Q. Li, Y. L. Tian, Y. Y. Huang, W. X. Huang, and W. He, "Comparative study of $KTiOPO_4$ crystals," Opt. Mater. **23,** 369-372 (2003). Keywords: crystal growth, damage, efficiency, nanosecond, sum-frequency

X. B. Hu, J. Y. Wang, H. J. Zhang, H. D. Jiang, H. Liu, X. D. Mu, and Y. J. Ding, "Dependence of photochromic damage on polarization in $KTiOPO_4$ crystals," J. Cryst. Growth **247,** 137-140 (2003). Keywords: damage

Z. W. Hu, P. A. Thomas, M. C. Gupta, and W. P. Risk, "Multiple-crystal x-ray topographic characterization of periodically domain-inverted $KTiOPO_4$ crystal," Appl. Phys. Lett. **66,** 13 (1995). Keywords: ferroelectric poling

J. Janousek, S. Johansson, P. Tidemand-Lichtenberg, S. Wang, J. L. Mortensen, P. Buchave, and F. Laurell, "Efficient all solid-state continuous-wave yellow-orange light source," Opt. Exp. **13,** 1188-1192 (2005). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

J. Jiang and T. Hasama, "Harmonic repetition-rate femtosecond optical parametric oscillator," Appl. Phys. B **74,** 313-317 (2002). Keywords: efficiency, femtosecond, OPO, pump tuning

S. Johansson, S. Bjurshagen, C. Canalias, V. Pasiskevicius, F. Laurell, and R. Koch, "An all solid-state uv source based on a frequency quadrupled, passively Q-switched 946 nm laser," Opt. Exp. **15,** 449-458 (2007). Keywords: efficiency, nanosecond, sum-frequency, temperature-bandwidth

S. Johansson, S. Spiekermann, S. Wang, V. Pasiskevicius, F. Laurell, and K. Ekvall, "Generation of turquoise light by sum frequency mixing of a diode-pumped solid-state laser and a laser diode in periodically poled KTP," Opt. Exp. **12,** 4935-4940 (2004). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

I. Jovanovic, J. R. Schmidt, and C. A. Ebbers, "Optical parametric chirped-pulse amplification in periodically poled $KTiOPO_4$ at 1053 nm," Appl. Phys. Lett. **83,** 4125-4127 (2003). Keywords: acceptance

angle, bandwidth, chirp, chirped pulse amplification, efficiency, femtosecond, M^2, nanosecond, OPA, quasiphasematch

I. Juwiler and A. Arie, "Efficient frequency doubling by a phase-compensated crystal in a semimonolithic cavity," Appl. Opt. **42,** 7163-7169 (2003). Keywords: cw, efficiency, quasiphasematch, sum-frequency

I. Juwiler, A. Arie, A. Skliar, and G. Rosenman, "Efficient quasi-phase-matched frequency doubling with phase compensation by a wedged crystal in a standing-wave external cavity," Opt. Lett. **24,** 1236-1238 (1999). Keywords: efficiency, quasiphasematch, sum-frequency

H. Karlson and F. Laurell, "Electric field poling of flux grown $KTiOPO_4$," Appl. Phys. Lett. **71,** 3474-3476 (1997). Keywords: bandwidth, conductivity, d_{ij}, ferroelectric poling, phasematch, quasiphasematch, sum-frequency, temperature-bandwidth

T. Kartaloglu, K. Koprulu, O. Aytur, M. Sundheimer, and W. P. Risk, "Femtosecond optical parametric oscillator based on periodically poled $KTiOPO_4$," Opt. Lett. **23,** 61-63 (1998). Keywords: efficiency, femtosecond, ferroelectric poling, OPO, phasematch, quasiphasematch

K. Kato, "Parametric oscillation at 3.2 μm in KTP pumped at 1.064 μm," IEEE J. Quant. Electron. **27,** 1137-1140 (1991). Keywords: efficiency, OPO, phasematch, Sellmeier

K. Kato and M. Masutani, "Widely tunable 90° phase-matched KTP parametric oscillator," Opt. Lett. **17,** 178-180 (1992). Keywords: phasematch

K. Kato and E. Takaoka, "Sellmeier and thermo-optic dispersion formulas for KTP," Appl. Opt. **41,** 5040-5044 (2002). Keywords: phasematch, quasiphasematch, Sellmeier, temperature-bandwidth, temperature tuning

M. Katz, D. Eger, H. Kim, L. Jankovic, G. Stegeman, S. Carrasco, and L. Torner, "Second harmonic generation tuning curves in quasiphase-matched potassium titanyl phosphate with narrow, high-intensity beams," J. Appl. Phys. **93,** 8852-8861 (2003). Keywords: acceptance angle, efficiency, picosecond, quasiphasematch, sum-frequency, temperature-bandwidth

M. Katz, D. Eger, M. B. Oron, and A. Hardy, "Refractive dispersion curve measurement of $KTiOPO_4$ using periodically segmented waveguides and periodically poled crystals," J. Appl. Phys. **90,** 53-58 (2001) Errata J. Appl. Phys. **92,** 7702 (2002). Keywords: ferroelectric poling, quasiphasematch, Sellmeier, waveguides

M. E. Klein, M. Scheidt, K.-J. Boller, and R. Wallenstein, "Dye laser pumped, continuous-wave KTP optical parametric oscillator," Appl. Phys. B, Lasers and Optics **66,** 727-732 (1998). Keywords: bandwidth, efficiency, OPO, phasematch

D. A. V. Kliner, F. Di Teodoro, J. P. Koplow, S. W. Moore, and A. V.Smith, "Efficient second, third, fourth, and fifth harmonic generation of a Yb-doped fiber amplifier," Opt. Comm. **210,** 393-398 (2002). Keywords: efficiency, nanosecond, sum-frequency

F. Konig and F. N. C. Wong, "Extended phase matching of second-harmonic generation in periodically poled $KTiOPO_4$ with zero group-velocity mismatch," Appl. Phys. Lett. **84,** 1644-1646 (2004). Keywords: bandwidth, efficiency, group velocity, Sellmeier, sum-frequency

K. G. Koprulu, T. Kartaloglu, Y. Dikmelik, and O. Aytur, "Single-crystal sum-frequency-generating optical parametric oscillator," J. Opt. Soc. Am. **16,** 1546-1552 (1999). Keywords: efficiency, femtosecond, OPO, phasematch, sum-frequency

O. Kuzuco, F. N. C. Wong, D. E. Zelmon, S. M. Hegde, T. D. Roberts, and P. Battle, "Generation of 250 mW narrowband pulsed ultraviolet light by frequency quadrupling of an amplified erbiur-doped fiber laser," Opt. Lett. **32,** 1290-1292 (2007). Keywords: efficiency, picosecond, sum-frequency

A. A. Lagatsky, C. T. A. Brown, W. Sibbett, S. J. Holmgren, C. Canalias, V. Pasiskevicius, F. Laurell, and E. U. Rafailov, "Efficient doubling of femtosecond pulses in aperiodically and periodically poled KTP crystals," Opt. Exp. **15,** 1155-1160 (2007). Keywords: efficiency, femtosecond, sum-frequency, temperature-bandwidth

F. Laurell, M. G. Roelofs, W. Bindloss, H. Hsiung, A. Suna, and J. D. Bierlein, "Detection of ferroelectric domain reversal in $KTiOPO_4$ waveguides," J. Appl. Phys. **71,** 4664-4670 (1992). Keywords: ferroelectric poling, waveguides

R. Le Targat, J.-J. Zondy, and P. Lemonde, "75%-efficiency blue generation from an intracavity PPKTP frequency doubler," Opt. Comm. **247,** 471-481 (2005). Keywords: cw, d_{eff}, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth, transmission

H. P. Li, C. H. Kam, Y. L. Lam, and W. Ji, "Femtosecond Z-scan measurements of nonlinear refraction in nonlinear optical crystals," Opt. Mat. **15,** 237-242 (2001). Keywords: femtosecond, n_2, two-photon absorption

Z. M. Liao, S. A. Payne, J. Dawson, A. Drobshoff, C. Ebbers, D. Pennington, and L. Taylor, "Thermally induced dephasing in periodically poled KTP frequency-doubling crystals," J. Opt. Soc. Am. B **21,** 2192-2196 (2004). Keywords: cw, damage, quasiphasematch, sum-frequency, two-photon absorption

J. T. Lin, "Recent advances of nonlinear crystals for frequency converters," SPIE **1104,** 23-32 (1989). Keywords: phasematch, d_{eff}, walkoff, temperature bandwidth, acceptance angle

J. T. Lin and J. L. Montgomery, "Generation of tunable mid-IR (1.8-2.4 μm) laser from optical parametric oscillation in KTP," Opt. Comm. **75,** 315-320 (1990). Keywords: phasematch, OPO

G. M. Loiacono, D. N. Loiacono, T. McGee, and M. Babb, "Laser damage formation in $KTiOPO_4$ and $KTiOAsO_4$ crystals: grey tracks," J. Appl. Phys. **72,** 2705-2712 (1992). Keywords: damage

P. Loza-Alvarez, D. T. Reid, P. Faller, M. Ebrahimzadeh, and W. Sibbett, "Simultaneous second-harmonic generation and femtosecond-pulse compression in aperiodically poled $KTiOPO_4$ with $RbTiOAsO_4$-based optical parametric oscillator," J. Opt. Soc. Am. **16,** 1553-1560 (1999). Keywords: bandwidth, chirp, efficiency, femtosecond, OPO, quasiphasematch, sum-frequency

G. Marcus, A. Zigler, A. Englander, M. Katz, and Y. Ehrlich, "Generation of ultrawide-band chirped sources in the infrared through parametric interactions in periodically poled crystals, " Appl. Phys. Lett. **82,** 164-166 (2003). Keywords: bandwidth, chirp, efficiency, OPG, picosecond, pump tuning, quasiphasematch

L. R. Marshall and A. Kaz, "Eye-safe output from noncritically phase-matched parametric oscillators," J. Opt. Soc. Am. B **10,** 1730-1736 (1993). Keywords: OPO, phasematch, efficiency

W. McCahon, S. A. Anson, D.-J. Jang, and T. F. Boggess, "Generation of 3-4 μm femtosecond pulses fram a synchronously pumped, critically phase-matched $KTiOPO_4$ optical parametric oscillator," Opt. Lett. **20,** 2309 (1995). Keywords: femtosecond, OPO, phasematch

M. J. McCarthy and D. C. Hanna, "Continuous-wave mode-locked singly resonant optical parametric oscillator synchronously pumped by a laser-diode-pumped Nd:YLF laser," Opt. Lett. **17,** 402-404 (1992). Keywords: OPO, phasematch

K. Miyamoto and H. Ito, "Wavelength-agile mid-infrared (5-10 μm) generation using a galvano-controlled $KTiOPO_4$ optical parametric oscillator," Opt. Lett. **32,** 274-276 (2007). Keywords: efficiency, M^2, OPO, pump tuning

A. Miyamoto, Y. Mori, T. Sasaki, and S. Nakai, "Improvement of optical transmission of $KTiOPO_4$ crystals by growth in nitrogen ambient," Appl. Phys. Let. **69,** 1032 (1996). Keywords: transmission

P. Mounaix, L. Sarger, J. P. Caumes, and E. Freysz, "Characterization of non-linear potassium crystals in the terahertz frequency domain," Opt. Comm. **242,** 631-639 (2004). Keywords: THz, transmission

X. Mu and Y. J. Ding, "Efficient third-harmonic generation in partly periodically poled $KTiOPO_4$ crystal," Opt. Lett. **26,** 623-625 (2001). Keywords: efficiency, phasematch, picosecond, quasiphasematch, sum-frequency, temperature tuning

X. Mu and Y. J. Ding, "Investigation of damage mechanisms of $KTiOPO_4$ crystal by use of a continuous-wave argon laser," Appl. Opt. **39,** 3099-3103 (2000). Keywords: damage

X. Mu and Y. J. Ding, "Efficient generation of coherent blue light at 440 nm by intracavity-frequency-tripling 1319-nm emission from a Nd:YAG laser," Opt. Lett. **30,** 1372-1374 (2005). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency

X. Mu, X. Gu, M. V. Makarov, Y. J. Ding, J. Wang, J. Wei, and Y. Liu, "Third-harmonic generation by cascading second-order nonlinear processes in a cerium-doped $KTiOPO_4$ crystal," Opt. Lett. **25,** 117-119 (2000). Keywords: efficiency, femtosecond, phasematch, sum-frequency

X. Mu, W. Shi, and Y. J. Ding, "Efficient $KTiOPO_4$ blue-light converter for monochromatic 1.3188-μm emission line of pulsed Nd:YAG laser," J. Appl. Phys. **93,** 9437-9440 (2003). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency

T. Nishikawa and N. Uesugi, "Effects of walk-off and group velocity difference on the optical parametric generation in $KTiOPO_4$ crystals," J. Appl. Phys. **77,** 4941-4947 (1995). Keywords: d_{eff}, group velocity, picosecond, femtosecond, two-photon absorption

M. Oba, M. Kato, and Y. Maruyama, "Optical parametric oscillator with periodically poled $KTiOPO_4$ pumped by 100 Hz Nd:YAG green laser," Jpn. J. Appl. Phys. **41,** L881-L883 (2002). Keywords: efficiency, nanosecond, OPO, quasiphasematch, temperature tuning

O. Pacaud, J. P. Feve, B. Boulanger, and B. Menaert, "Cylindrical $KTiOPO_4$ crystal for enhanced angular tenability of phase-matched optical parametric oscillators," Opt. Lett. **25,** 737-739 (2000). Keywords: bandwidth, efficiency, OPO, phasematch, walkoff angle

V. Pasiskevicius, A. Fragemann, F. Laurell, R. Butkus, V. Smilgevicius, and A. Piskarskas, "Enhanced stimulated Raman scattering in optical parametric oscillators from periodically poled $KTiOPO_4$," Appl. Phys. Lett. **82,** 325-327 (2003). Keywords: efficiency, nanosecond, OPO, quasiphasematch

V. Pasiskevicius, S. J. Holmgren, S. Wang, and F. Laurell, "Simultaneous second-harmonic generation with two orthogonal polarization states in periodically poled KTP," Opt. Lett. **27,** 1628-1630 (2002). Keywords: bandwidth, cw, efficiency, femtosecond, group velocity, quasiphasematch, Sellmeier, sum-frequency, temperature tuning

V. Pasiskevicius, H. Karlsson, F. Laurell, R. Butkus, V. Smilgevicius, and A. Piskarskas, "High-efficiency parametric oscillation and spectral control in the red spectral region with periodically poled $KTiOPO_4$," Opt. Lett. **26,** 710-712 (2001). Keywords: bandwidth, damage, efficiency, OPO, quasiphasematch, temperature tuning

V. Pasiskevicius, S. Wang, J. A. Tellefsen, F. Laurell, and H. Karlsson, "Efficient Nd:YAG laser frequency doubling with periodically poled KTP," Appl. Opt. **37,** 7116-7119 (1998). Keywords: damage, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

W. S. Pelouch, P. E. Powers, and C. L. Tang, "Ti:sapphire-pumped, high-repetition-rate femtosecond optical parametric oscillator," Opt. Lett. **17,** 1070-1072 (1992). Keywords: OPO, femtosecond

M. Peltz, U. Bader, A. Borsutzky, R. Wallenstein, J. Hellstrom, H. Karlsson, V. Pasiskevicius, and F. Laurell, "Optical parametric oscillators for high pulse energy and high average power operation based on large aperture periodically poled KTP and RTA," Appl. Phys. B **73,** 663-670 (2001). Keywords: acceptance angle, bandwidth, conductivity, d_{ij}, efficiency, ferroelectric poling, OPO, quasiphasematch, Sellmeier, temperature tuning, thermal expansion

V. Petrov, F. Noack, F. Rotermund, V. Pasiskevicius, A. Fragemann, F. Laurell, H. Hundertmark, P. Adel, and C. Fallnich, "Efficient all-diode-pumped double stage femtosecond optical parametric chirped pulse amplification at 1-kHz with periodically poled $KTiOPO_4$," Jpn. J. Appl. Phys. **42,** L1327-L1329 (2003). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, OPA, quasiphasematch

V. Petrov, F. Noack, and R. Stolzenberger, "Seeded femtosecond optical parametric amplification in the mid-infrared spectral region above 3μm," Appl. Opt. **36,** 1164-1172 (1997). Keywords: acceptance angle, d_{eff}, damage, femtosecond, group velocity

P. B. Phua, K. S. Lai, and R. Wu, "Multiwatt high-repetition-rate 2-μm output from an intracavity $KTiOPO_4$ optical parametric oscillator," Appl. Opt. **39,** 1435-1439 (2000). Keywords: efficiency, M^2, OPO

M. Pierrou, F. Laurell, H. Karlsson, T. Kellner, C. Czeranowsky, and G. Huber, "Generation of 740 mW of blue light by intracavity frequency doubling with a first-order quasi-phase-matched $KTiOPO_4$ crystal," Opt. Lett. **24,** 205-207 (1999). Keywords: efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

P. E. Powers, R. J. Ellingson, W. S. Pelouch, and C. L. Tang, "Recent advances of the Ti:sapphire-pumped high-repetition-ratte femtosecond optical parametric oscillator," J. Opt. Soc. Am. B **10,** 2162-2167 (1993). Keywords: femtosecond, OPO, walkoff, phasematch

L. Qian, S. D. Benjamin, P. W. E. Smith, "Picosecond optical parametric oscillator tunable around 1.55 μm," Opt. Comm. **127,** 73-78 (1996). Keywords: efficiency, phasematch

E. U. Rafailov, W. Sibbett, A. Mooradian, J. G. McInerney, H. Karlsson, S. Wang, and F. Laurell, "Efficient frequency doubling of a vertical-extended-cavity surface-emitting laser diode by use of a periodically poled KTP crystal," Opt. Lett. **28,** 2091-2093 (2003). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

D. T. Reid, M. Ebrahimzadeh, and W. Sibbett, "Design criteria and comparison of femtosecond optical parametric oscillators based on $KTiOPO_4$ and $RbTiOAsO_4$," J. Opt. Soc. Am. B **12,** 2168-2179 (1995). Keywords: femtosecond, OPO, pump tuning

W. P. Risk and S. D. Lau, "Periodic electric field poling of $KTiOPO_4$ using chemical patterning," Appl. Phys. Lett. **69,** 3999-4001 (1996). Keywords: bandwidth, ferroelectric poling, sum-frequency

G. Rosenman, A. Skliar, D. Eger, M. Oron, and M. Katz, "Low temperature periodic electrical poling of flux-grown $KTiOPO_4$ and isomorphic crystals," Appl. Phys. Lett. **73,** 3650-3652 (1998). Keywords: conductivity, ferroelectric poling, quasiphasematch

G. Rosenman, A. Skliar, M. Oron, and M. Katz, "Polarization reversal in $KTiOPO_4$ crystals," J. Phys. D: Appl. Phys. **30,** 277-282 (1997). Keywords: efficiency, ferroelectric poling, quasiphasematch, sum-frequency

F. Rotermund, V. Petrov, F. Noack, V. Pasiskevicius, J. Hellstrom, and F. Laurell, "Efficient femtosecond traveling-wave optical parametric amplification in periodically poled $KTiOPO_4$," Opt. Lett. **24,** 1874-1876 (1999). Keywords: damage, efficiency, femtosecond, group velocity, OPA, quasiphasematch

M. Roth, N. Angert, M. Tseitlin, and A. Alexandrovski, "On the optical quality of KTP crystals for nonlinear optical and electro-optic applications," Opt. Mat. **16,** 131-136 (2001). Keywords: crystal growth, damage

U. Roth, M. Trobs, T. Graf, J. E. Balmer, and H. P. Weber, "Proton and gamma radiation tests on nonlinear crystals," Appl. Opt. **41,** 464-469 (2002). Keywords: damage, efficiency, picosecond, sum-frequency, transmission

M. Roth, M. Tseitlin, and N. Angert, "Composition-dependent electro-optic and nonlinear optical properties of KTP-family crystals," Opt. Mater. **28,** 71-76 (2006). Keywords: crystal growth, damage

H. Sakata, Y. Furukawa, and T. Yagi, "Type II quasi-phase-matched sum-frequency mixing of diode lasers in $KTiOPO_4$ with broad spectral and temperature acceptance bandwidths," Appl. Opt. **43,** 4922-4928 (2004). Keywords: bandwidth, cw, quasiphasematch, sum-frequency, temperature-bandwidth

E. Samsoe, P. M. Petersen, S. Andersson-Engels, and P. E. Andersen, "Second-harmonic generation of 405-nm light using periodically poled $KTiOPO_4$ pumped by external-cavity laser diode with double grating feedback," Appl. Phys. B **(2005).** Keywords: cw, d_{eff}, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

M. N. Satyanarayan and H. L. Bhat, "Influence of growth below and above T_c on the morphology and domain structure in flux-grown KTP crystals," J. Cryst. Growth **181,** 281-289 (1997). Keywords: crystal growth, ferroelectric poling

M. Sheik-Bahae and M. Ebrahimzadeh, "Measurements of nonlinear refraction in the second-order $\chi^{(2)}$ materials $KTiOPO_4$, $KNbO_3$, β-BaB_2O_4, and LiB_3O_5," Opt. Comm. **142,** 294-298 (1997). Keywords: n_2

H. Shen, D. Zhang, W. Liu, W. Chen, G. Zhang, G. Zhang, and W. Lin, "Measurement of refractive indices and thermal refractive-index coefficients of 7.5-mol.% Nb:$KTiOPO_4$," Appl. Opt. **38,** 987 (1999). Keywords: phasematch, Sellmeier, temperature tuning

B.-S. Shi and A. Tomita, "Highly efficient generation of pulsed photon pairs with bulk periodically poled potassium titanyl phosphate," J. Opt. Soc. Am. B **21,** 2081-2084 (2004). Keywords: femtosecond, OPG, quasiphasematch, temperature-bandwidth

L. Shiv, J. L. Sorensen, E. S. Polzik, and G. Mizell, "Inhibited light-induced absorption in $KNbO_3$," Opt. Lett. **20,** 2270-2272 (1995). Keywords: damage, transmission, two-photon absorption

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

V. Smilgevicius, A. Stabinis, A. Piskarskas, V. Pasiskevicius, J. Hellstrom, S. Wang, and F. Laurell, "Noncollinear optical parametric oscillator with periodically poled KTP," Opt. Comm. **173,** 365-369 (2000). Keywords: efficiency, OPO, phasematch, quasiphasematch, temperature tuning

A. V. Smith, W. J. Alford, T. D. Raymond, and M. S. Bowers, "Comparison of a numerical model with measured performance of a seeded, nanosecond KTP optical parametric oscillator," J. Opt. Soc. Am. B **12,** 2253-2267 (1995). Keywords: bandwidth, efficiency, M^2, OPO

A. V. Smith and D. J. Armstrong, "Nanosecond optical parametric oscillator with 90° image rotation: design and performance," J. Opt. Soc. Am. B **19,** 1801-1814 (2002). Keywords: efficiency, M^2, n_2, OPO

S. Spiekermann, F. Laurell, V. Pasiskevicius, H. Karlsson, and I. Freitag, "Optimizing non-resonant frequency conversion in periodically poled media," Appl. Phys. B **79,** 211-219 (2004). Keywords: bandwidth, cw, d_{eff}, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

N. Srinivasan, H. Kiriyama, T. Kimura, M. Ohmi, M. Yamanaka, Y. Izawa, S. Nakai, and C. Yamanaka, "Efficient low-energy near-infrared $KTiOPO_4$ optical parametric converter," Opt. Lett. **20,** 1265-1267 (1995). Keywords: efficiency, OPO, phasematch

U. Strossner, J.-P. Meyn, R. Wallenstein, P. Urenski, A. Arie, G. Rosenman, J. Mlynek, S. Schiller, and A. Peters, "Single-frequency continuous-wave optical parametric oscillator system with an ultrawide tuning range of 550 to 2830 nm," J. Opt. Soc. Am. B **19,** 1419-1424 (2002). Keywords: bandwidth, damage, efficiency, OPO, quasiphasematch, temperature tuning

T. Suhara, Y. Avetisyan, and H. Ito, "Theoretical analysis of laterally emitting terahertz-wave generation by difference-frequency generation in channel waveguides," IEEE J. Quant. Electron. **39,** 166-171 (2003). Keywords: d_{ij}, difference-frequency, efficiency, quasiphasematch, THz, transmission, waveguides

Y. Tang, C. F. Rae, C. Rahlff, and M. H. Dunn, "Low-threshold, high-efficiency, widely tunable infrared source from a KTP-based optical parametric oscillator," J. Opt. Soc. Am. B **14,** 3443-3451 (1997). Keywords: d_{eff}, efficiency, OPO, phasematch, walkoff angle

J. A. C. Terry, Y. Cui, Y. Yang, W. Sibbett, and M. H. Dunn, "Low-threshold operation of an all-solid-state KTP optical parametric oscillator," J. Opt. Soc. Am. B **11,** 758-769 (1994). Keywords: efficiency

M. Tiihonen, V. Pasiskevicius, and F. Laurell, "Noncollinear double-ring optical parametric oscillators with periodically poled $KTiOPO_4$," Opt. Exp. **12,** 5526-5532 (2004). Keywords: efficiency, nanosecond, OPO, quasiphasematch

M. Tiihonen, V. Pasiskevicius, and F. Laurell, "Spectral and spatial limiting in an idler-resonant PPKTP optical parametric oscillator," Opt. Comm. **250,** 207-211 (2005). Keywords: bandwidth, efficiency, nanosecond, OPO, quasiphasematch

K. A. Tillman, D. T. Reid, D. Artigas, J. Hellstrom, V. Pasiskevicius, and F. Laurell, "Low-threshold, high-repetition-frequency femtosecond optical parametric oscillator based on chirped-pulse frequency conversion," J. Opt. Soc. Am. B **20,** 1309-1316 (2003). Keywords: chirped pulse, efficiency, femtosecond, OPO, quasiphasematch

K. A. Tillman, D. T. Reid, D. Artigas, J. Hellstrom, V. Pasiskevicius, and F. Laurell, "Low-threshold femtosecond optical parametric oscillator based on chirped-pulse frequency conversion," Opt. Lett. **28,** 543-545 (2003). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, OPO, quasiphasematch

I. Tordjman, R. Masse, and J. C. Guitel, "Structure cristalline du monophosphate $KTiPO_5$," Zeit. fur Kristallographie, **139,** 103-115 (1974). Keywords: crystal structure

M. D. Turner, L. Hanko, and M. J. McAuliffe, "Synchronously pumped gigahertz modulated optical parametric oscillator," J. Opt. Soc. Am. B **11,** 632-635 (1994). Keywords: OPO, efficiency

M. H. van der Mooren, Th. Rasing, and H. J. A. Bluyssen, "Determination of type I phase matching angles and conversion efficiency in KTP," Appl. Opt. **34,** 934 (1995). Keywords: efficiency, d_{eff} , phasematch, sum-frequency

H. Vanherzeele and J. D. Bierlein, "Magnitude of the nonlinear-optical coefficients of $KTiOPO_4$," Opt. Lett. **17,** 982-984 (1992). Keywords: d_{ij}

F. Villa, A. Chiummo, E. Giacobino, and A. Bramati, "High-efficiency blue-light generation with a ring cavity with periodically poled KTP," J. Opt. Soc. Am. B **24,** 576-580 (2007). Keywords: efficiency, M^2, quasiphasematch, sum-frequency

H. Wang, Y. Ma, Z. Zhai, J. Gao, C. Xie, and K. Peng, "Tunable continuous-wave doubly resonant optical parametric oscillator by use of a semimonolithic KTP crystal," Appl. Opt. **41,** 1124-1127 (2002). Keywords: efficiency, OPO, temperature tuning

S. Wang, V. Pasiskevicius, J. Hellstrom, F. Laurell, and H. Karlsson, "First-order type II quasi-phase-matched UV generation in periodically poled KTP," Opt. Lett. **24,** 978-980 (1999). Keywords: bandwidth, d_{ij}, efficiency, ferroelectric poling, quasiphasematch, temperature-bandwidth

S. Wang, V. Pasiskevicius, and F. Laurell, "Dynamics of green light-induced infrared absorption in $KTiOPO_4$ and periodically poled $KTiOPO_4$," J. Appl. Phys. **96,** 2023-2028 (2004). Keywords: damage, quasiphasematch

S. Wang, V. Pasiskevicius, F. Laurell, and H. Karlsson, "Ultraviolet generation by first-order frequency doubling in periodically poled $KTiOPO_4$," Opt. Lett. **23,** 1883-1885 (1998). Keywords: efficiency, femtosecond, ferroelectric poling, group velocity, quasiphasematch, temperature tuning

W. Wang and M. Ohtsu, "Continuous-wave optical parametric amplifier that uses a diode laser for a wideband coherent optical frequency sweep generator," Opt. Lett. **18,** 876-878 (1993). Keywords: efficiency

D. R. Weise, U. Strossner, A. Peters, J. Mlynek, S. Schiller, A. Arie, A. Skliar, and G. Rosenman, "Continuous-wave 532-nm-pumped singly resonant optical parametric oscillator with periodically poled $KTiOPO_4$," Opt. Comm. **184,** 329-333 (2000). Keywords: d_{eff}, efficiency, OPO, quasiphasematch, temperature tuning, transmission

R. T. White, Y. He, B. J. Orr, M. Kono, and K. G. H. Baldwin, "Pulsed injection-seeded optical parametric oscillator with low frequency chirp for high-resolution spectroscopy," Opt. Lett. **28,** 1248-1250 (2003). Keywords: chirp, nanosecond, OPO, quasiphasematch

W. Wiechmann, S. Kubota, T. Fukui, and H. Masuda, "Refractive-index temperature derivatives of potassium titanyl phosphate," Opt. Lett. **18,** 1208-1210 (1993). Keywords: dn/dT, temperature-bandwidth, phasematching

D. Woll, J. Schumacher, A. Robertson, M. A. Tremont, R. Wallenstein, M. Katz, D. Eger, and A. Englander, "250 mW of coherent blue 460-nm light generated by single-pass frequency doubling of the output of a mode-locked high-power diode laser in periodically poled KTP," Opt. Lett. B **27,** 1055-1057 (2002). Keywords: bandwidth, d_{eff}, efficiency, picosecond, quasiphasematch, sum-frequency, temperature-bandwidth

R. F. Wu, P. B. Phua, K. S. Lai, Y. L. Lim, E. Lau, A. Chng, C. Bonnin, and D. Lupinski, "Compact 21-W 2-μm intracavity optical parametric oscillator," Opt. Lett. **25,** 1460-1462 (2000). Keywords: efficiency, M^2, OPO

B. Wyncke and F. Brehat, “Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals,” J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

D.-G. Xu, J.-Q. Yao, B.-G. Zhang, R. Zhou, E. Li, S.-Y. Zhao, X. Ding, W.-Q. Wen, Y.-X. Niu, J. Hu, P. Wang, “110 W high stability green laser using type II phase matching $KTiOPO_4$ (KTP) crystal with boundary temperature control,” Opt. Comm. **245,** 341-347 (2005). Keywords: efficiency, nanosecond, sum-frequency, temperature-bandwidth

D. Xue and S. Zhang, “The origin of nonlinearity in $KTiOPO_4$,” Appl. Phys. Lett. **70,** 943-945 (1997). Keywords: d_{eff}, d_{ij}

S. T. Yang, R. C. Eckardt, and R. L. Byer, “Continuous-wave singly resonant optical parametric oscillator pumped by a single-frequency resonantly doubled Nd:YAG laser,” Opt. Lett. **18,** 971-973 (1993). Keywords: OPO, efficiency

P. Yankov, D. Schumov, A. Nenov, and A. Monev, “Laser damage tests of large flux-grown $KTiOPO_4$ crystals,” Opt. Lett. **18,** 1771-1773 (1993). Keywords: damage, efficiency, M^2

J. Q. Yao, X. Ding, J. Y. Qiao, C. C. Yang, I. J. Hsu, and C. W. Hsu, “Pump-tuning optical parametric oscillation and sum-frequency mixing with KTP pumped by a Ti:sapphire laser,” Opt. Comm. **192,** 407-416 (2001). Keywords: acceptance angle, bandwidth, efficiency, OPO, phasematch, pump tuning, sum-frequency, walkoff angle

J. Q. Yao and T. S. Fahlen, “Calculations of optimum phase match parameters for the biaxial crystal $KTiOPO_4$,” J. Appl. Phys. **55,** 65-68 (1984). Keywords: phasematch, d_{eff}, walkoff

J. Yao, W. Sheng, and W. Shi, “Accurate calculation of the optimum phase-matching parameters in three-wave interactions with biaxial nonlinear-optical crystals,” J. Opt. Soc. Am. B **9,** 891-902 (1992). Keywords: phasematch, acceptance angle, walkoff angle, d_{eff}

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, “Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction,” Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

W. Zendzian, J. K. Jabczynski, and J. Kwiatkowski, “Intracavity optical parametric oscillator at 1572-nm wavelength pumped by passively Q-switched diode-pumped Nd:YAG laser,” Appl. Phys. B **76,** 355-358 (2003). Keywords: efficiency, nanosecond, OPO

W. Zendzian, J. K. Jabczynski, P. Wachulak, and J. Kwiatkowski, “High-repetition-rate, intracavity-pumped KTP OPO at 1572 nm,” Appl. Phys. B (2004). Keywords: efficiency, nanosecond, OPO

H. H. Zenzie and P. F. Moulton, “Tunable optical parametric oscillators pumped by Ti:sapphire lasers,” Opt. Lett. **19,** 963-965 (1994). Keywords: OPO, phasematch, efficiency

D. Y. Zhang, H. Y. Shen, W. Liu, W. Z. Chen, G. F. Zhang, G. Zhang, R. R. Zeng, C. H. Huang, W. X. Lin, and J. K. Liang, “Crystal growth, X-ray diffraction and nonlinear optical properties of Nb:$KTiOPO_4$ crystal,” J. Crystal Growth **218,** 98-102 (2000). Keywords: crystal growth, crystal structure, phasematch

D. Y. Zhang, H. Y. Shen, W. Liu, G. F. Zhang, W. Z. Chen, G. Zhang, R. R. Zeng, C. H. Huang, W. X. Lin, and J. K. Liang, “The thermal refractive index coefficients of 7.5 mol% Nb:$KTiOPO_4$ crystals,” J. Appl. Phys. **86,** 3516-3518 (1999). Keywords:

D. Y. Zhang, H. Y. Shen, W. Liu, G. F. Zhang, W. Z. Chen, G. Zhang, R. R. Zeng, C. H. Huang, W. X. Lin, and J. K. Liang, “Study of the nonlinear optical properties of 7.5 mol% Nb:KTP crystals,” IEEE J.

Quant. Electron. **35,** 1447-1450 (1999). Keywords: acceptance angle, bandwidth, phasematch, Sellmeier, temperature-bandwidth, temperature tuning, walkoff angle

D. Y. Zhang, H. Y. Shen, W. Liu, G. Zhang, G. F. Zhang, W. Z. Chen, R. R. Zeng, C. H. Huang, W. X. Lin, and J. K. Liang, "Second harmonic generation phase-matching locus for 7.5 mol% Nb:KTP crystals at near-infrared wavelengths," IEEE J. Quant. Electron. **37,** 319-321 (2001). Keywords: phasematch, Sellmeier

D. Y. Zhang, H. Y. Shen, W. Liu, G. F. Zhang, W. Z. Chen, G. Zhang, R. R. Zeng, C. H. Huang, W. X. Lin, and J. K. Liang, "The principal refractive indices and nonlinear optical phase matched properties of Nb:KTP crystals," Opt. Mat. **15,** 99-102 (2000). Keywords: phasematch, Sellmeier, sum-frequency

X. Zhang and H. Giessen, "Four-wave mixing based on cascaded second-order nonlinear processes in a femtosecond optical parametric oscillator operating near degeneracy," Appl. Phys. B **79,** 441-447 (2004). Keywords: difference-frequency, efficiency, femtosecond, OPO, quasiphasematch

J.-J. Zondy, M. Abed, and A. Clairon, "Type-II frequency doubling at λ = 1.30 μm and λ = 2.53 μm in flux-grown potassium titanyl phosphate," J. Opt. Soc. Am. B **11,** 2004-2015 (1994). Keywords: phasematch, bandwidth, acceptance angle, d_{eff}, efficiency

J.-J. Zondy, M. Abed, and S. Khodja, "Twin-crystal walkoff-compensated type-II second-harmonic generation: single-pass and cavity-enhanced experiments in $KTiOPO_4$," J. Opt. Soc. Am. B **11,** 2368-2379 (1994). Keywords: efficiency

LA^*P:

D. Eimerl, S. Velsko, L. Davis, F. Wang, G. Loiacono, and G. Kennedy, "Deuterated L-arginine phosphate: a new efficient nonlinear crystal," IEEE J. Quant. Electron. **25,** 179-193 (1989). Keywords: transmission, Sellmeier, dn/dT, phasematch, acceptance angle, d_{ij}, damage, n_2

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

$LaBGeO_5$ (LABGO):

J. Capmany, D. Jaque, and J. G. Sole, "Continuous wave laser radiation at 1314 and 1386 nm and infrared to red self-frequency doubling in nonlinear $LaBGeO_5:Nd^{3+}$ crystal," Appl. Phys. Lett. **75,** 2722-2724 (1999). Keywords: efficiency, sum frequency

J. Capmany and J. G. Sole, "Second harmonic generation in $LaBGeO_5:Nd^{3+}$," Appl. Phys. Lett. **70,** 2517-2519 (1997). Keywords: phasematch, accpetance angle, efficiency, walkoff

Y. Takahashi, Y. Benino, T. Fujiwara, and T. Komatsu, "Second-order optical nonlinearity of $LaBGeO_5$, $LiBGeO_4$, and $Ba_2TiGe_2O_8$ crystals in corresponding crystallized glasses," Jpn. J. Appl. Phys. **41,** L1455-L1458 (2002). Keywords: crystal growth, d_{ijk}, transmission

$LaCa_4O(BO_3)_3$ (LCOB):

J. J. Adams, C. A. Ebbers, K. I. Schaffers, and S. A. Payne, "Type I frequency doubling at 1064 nm in $LaCa_4O(BO_3)_3$ (LaCOB), $GdCa_4O(BO_3)_3$ (GdCOB), and $YCa_4O(BO_3)_3$ (YCOB)," OSA TOPS **50,** 615-621 (2001). Keywords: acceptance angle, crystal growth, d_{eff}, phasematch, sum-frequency, temperature-bandwidth

J. J. Adams, C. A. Ebbers, K. I. Schaffers, and S. A. Payne, "Nonlinear optical properties of $LaCa_4O(BO_3)_3$," Opt. Lett. **26,** 217-219 (2001). Keywords: acceptance angle, crystal growth, d_{eff}, $d_{ijk,}$ phasematch, sum-frequency, transmission

R. Guo, Y. Wu, P. Fu, and F. Jing, "Optical assessment on a new self-frequency doubling crystal: neodymium-doped lanthanum calcium borate," J. Opt. Soc. Am. B **22,** 831-834 (2005). Keywords: crystal growth

H. Jiang, J. Wang, H. Zhang, X. Hu, and H. Liu, "Growth and thermal properties of $LaCa_4O(BO_3)_3$ crystals," Opt. Materials **23,** 461-464 (2003). Keywords: crystal growth, crystal structure, thermal conductivity, thermal expansion

F. Jing, Y. Wu, P. Fu, and R. Guo, "Thermal expansion of nonlinear optical crystal $La_2CaB_{10}O_{19}$," Jap. J. Appl. Phys. **44,** 1812-1814 (2005). Keywords: thermal expansion

$LiBGeO_4$ (LIBGO):

Y. Takahashi, Y. Benino, T. Fujiwara, and T. Komatsu, "Second-order optical nonlinearity of $LaBGeO_5$, $LiBGeO_4$, and $Ba_2TiGe_2O_8$ crystals in corresponding crystallized glasses," Jpn. J. Appl. Phys. **41,** L1455-L1458 (2002). Keywords: crystal growth, d_{ijk}, transmission

LiB_3O_5 (LBO):

C. S. Adams and A. I. Ferguson, "Tunable narrow linewidth ultra-violet light generation by frequency doubling of a ring Ti:sapphire laser using lithium tri-borate in an external enhancement cavity," Opt. Comm. **90,** 89-94 (1992). Keywords: phasematch, efficiency

Y. Asakawa, H. Kumagai, K. Midorikawa, and M. Obara, "50% frequency doubling efficiency of 1.2-W cw Ti:sapphire laser at 746 nm," Opt. Comm. **217,** 311-315 (2003). Keywords: cw, efficiency, sum-frequency

V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, "5 Hz, >250 mJ optical parametric chirped-pulse amplifier at 1053 nm," Opt. Lett. **30,** 1843-1845 (2005). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, OPA

Y. Bai, L. Li, H.-W. Chen, Z. Yang, and J.-T. Bai, "Continuous-wave green laser of 9.9 W by intracavity frequency doubling in laser-diode single-end-pumped Nd:YVO_4/LBO," Chin. Phys. Lett. **21,** 1532-1534 (2004). Keywords: cw, efficiency, sum-frequency

G. P. Banfi, R. Danielius, A. Piskarsas, P. Di Trapani, P. Foggi, and R. Righini, "Femtosecond traveling-wave parametric generation with lithium triborate," Opt. Lett. **19,** 1633-1635 (1993). Keywords: femtosecond, temperature tuning, efficiency

B. Beier, D. Woll, M. Schiedt, K.-J. Boller, and R. Wallenstein, "Second harmonic generation of the output of an AlGaAs diode oscillator amplifier system in critically phase matched LiB_3O_5 and β-BaB_2O_4," Appl. Phys. Lett. **71,** 315-317 (1997). Keywords: efficiency, sum frequency

G. C. Bhar, A. M. Rudra, and A. K. Chaudhary, "The generation of efficient tunable coherent near-IR radiation by temperature-tuned non-critical difference-frequency mixing in a LBO crystal," J. Phys. D.: Appl. Phys. **29,** 1157-1161 (1996). Keywords: difference-frequency, efficiency, temperature bandwidth, temperature tuning

Y. Bi, H.-B. Zhang, Z.-P. Sun, Z.-R.-G.-T. Bao, H.-Q. Li, Y.-P. Kong, X.-C. Lin, G.-L. Wang, J. Zhang, W. Hou, R.-N. Li, D.-F. Cui, Z.-Y. Xu, L.-W. Song, P. Zhang, J.-F. Cui, and Z.-W. Fan, "High-power blue light generation by external frequency doubling of an optical parametric oscillator," Chin. Phys. Lett. **20,**

1957-1959 (2003). Keywords: efficiency, nanosecond, OPO, phasematch, sum-frequency, temperature tuning

J. Biegert, "Bichromatic pulsed source in the visible and infrared," Appl. Phys. B **75,** 25-29 (2002). Keywords: bandwidth, efficiency, femtosecond, OPA, OPO, picosecond, sum-frequency

J. C. Bienfang, C. A. Denman, B. W. Grime, P. D. Hillman, G. T. Moore, and J. M. Telle, "20 W of continuous-wave sodium D_2 resonance radiation from sum-frequency generation with injection-locked lasers," Opt. Lett. **28,** 2219-2221 (2003). Keywords: cw, d_{eff}, efficiency, sum-frequency

F. Brunner, E. Innerhofer, S. V. Marchese, T. Sudmeyer, R. Paschotta, T. Usami, H. Ito, S. Kurimura, K. Kitamura, G. Arisholm, and U. Keller, "Powerful red-green-blue laser source pumped with a mode-locked thin disk laser," Opt. Lett. **29,** 1921-1923 (2004). Keywords: efficiency, picosecond, sum-frequency

S. D. Butterworth, M. J. McCarthy, and D. C. Hanna, "Widely tunable synchronously pumped optical parametric oscillator," Opt. Lett. **17,** 1429-1431 (1993). Keywords: OPO, femtosecond

O. V. Chekhlov, J. L. Collier, I. N. Ross, P. K. Bates, M. Notley, C. Hernandez-Gomez, W. Shaikh, C. N. Danson, D. Neely, P. Matousek, S. Hancock, and L. Cardoso, "35 J broadband femtosecond optical parametric chirped pulse amplification system," Opt. Lett. **31,** 3665-3667 (2006). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond

C. Chen, Y. Wu, A. Jiang, B. Wu, G. You, R. Li, and S. Lin, "New nonlinear-optical crystal: LiB_3O_5," J. Opt. Soc. Am. B **6,** 616-621 (1989). Keywords: d_{ij}, transmission, Sellmeier, phasematch, temperature bandwidth, acceptance angle, damage

F. G. Colville, M. J. Padgett, A. J. Henderson, J. Zhang, and M. H. Dunn, "Continuous-wave parametric oscillator pumped in the ultraviolet," Opt. Lett. **18,** 1065-1067 (1993). Keywords: OPO

Y. Cui, D. E. Withers, C. F. Rae, C. J. Norrie, Y. Tang, B. D. Sinclair, W. Sibbett, and M. H. Dunn, "Widely tunable all-solid-state optical parametric oscillator for the visible and near infrared," Opt. Lett. **18,** 122-124 (1993). Keywords: OPO, phasematch, d_{eff}, walkoff, efficiency, bandwidth

C. A. Denman, P. D. Hillman, G. T. Moore, J. M. Telle, J. D. Drummond, and A. L. Tuffli, "20 W cw 589 nm sodium beacon excitation source for adaptive optical telescope applications," Opt. Mater. **26,** 507-513 (2004). Keywords: cw, efficiency, M^2, sum-frequency

F. Devaux and E. Lantz, "Spatial and temporal properties of parametric fluorescence around degeneracy in a type I LBO crystal," Eur. Phys. J. D **8,** 117-124 (2000). Keywords: efficiency, OPF

A. Dubietis, G. Tamosauskas, A. Varanavicius, and G. Valiulis, "Two-photon absorbing properties of ultraviolet phase-matched crystals at 264 and 211 nm," Appl. Opt. **39,** 2437-2440 (2000). Keywords: two-photon absorption

M. Ebrahimzadeh, S. French, W. Sibbett, and A. Miller, "Picosecond Ti:sapphire-pumped optical parametric oscillator based on LiB_3O_5," Opt. Lett. **20,** 166-168 1995). Keywords: group velocity, OPO, phasematch, picosecond, temperature tuning

M. Ebrahimzadeh, G. J. Hall, and A. I. Ferguson, "Temperature-tuned noncritically phase-matched picosecond LiB_3O_5 optical parametric oscillator," Appl. Phys. Lett. **60,** 1421-1423 (1992). Keywords: phasematch, efficiency, temperature tuning

M. Ebrahimzadeh, G. J. Hall, and A. I. Ferguson, "Singly resonant, all-solid-state, mode-locked LiB_3O_5 optical parametric oscillator tunable from 652 nm to 2.65 μm," Opt. Lett. **17,** 652-654 (1992). Keywords: phasematch, temperature tuning, bandwidth

K. A. Elsayed, R. J. DeYoung, L. B. Petway, W. C. Edwards, J. C. Barnes, and H. E. Elsayed-Ali, "Compact high-pulse-energy ultraviolet laser source for ozone lidar measurements," Appl. Opt. **42,** 6650-6660 (2003). Keywords: efficiency, nanosecond, sum-frequency

Y. Furukawa, M. Sato, S. A. Markgraf, H. Yoshida, and T. Sasaki, "Crystal growth and laser-damage of LiB_3O_5," SPIE **2379,** 245-250 (1995). Keywords: damage

S. M. Giffin, G. W. Baxter, I. T. McKinnie, and V. V. Ter-Mikirtychev, "Efficient 550-600 nm tunable laser based on noncritically phase-matched frequency doubling of room-temperature LiF:F_2^- in lithium triborate," Appl. Opt. **41,** 4331-4335 (2002). Keywords: efficiency, sum-frequency, temperature tuning

G. J. Hall and A. I. Ferguson, "LiB_3O_5 optical parametric oscillator pumped by a Q-switched frequency-doubled all-solid-state laser," Opt. Lett. **18,** 1511-1513 (1993). Keywords: OPO, efficiency, phasematch

F. Hanson and D. Dick, "Blue parametric generation from temperature-tuned LiB_3O_5," Opt. Lett. **16,** 205-207 (1991). Keywords: phasematch, efficiency, temperature tuning

J. Jiang and T. Hasama, "High repetition-rate femtosecond optical parametric oscillator based on LiB_3O_5," Opt. Comm. **211,** 295-302 (2002). Keywords: bandwidth, efficiency, femtosecond, OPO, temperature tuning

K. Kato, "Parametric oscillation in LiB_3O_5 pumped at 0.532 μm," IEEE J. Quant. Electron. **26,** 2043-2045 (1990). Keywords: OPO, phasematch, temperature tuning

K. Kato, "Tunable UV generation to 0.2325 μm in LiB_3O_5," IEEE J. Quant. Electron. **26,** 1173-1175 (1990). Keywords: Sellmeier, phasematch

K. Kato, "Temperature-tuned 90° phase-matching properties of LiB_3O_5," IEEE J. Quant. Electron. **30,** 2950-2952 (1994). Keywords: bandwidth, phasematch, Sellmeier, temperature bandwidth, temperature tuning

T. Kellner, F. Heine, and G. Huber, "Efficient laser performance of Nd:YAG at 946 nm and intracavity frequency doubling of $LiIO_3$, β-BaB_2O_4, and LiB_3O_5," Appl. Phys. B **65,** 789-792 (1998). Keywords: acceptance angle, bandwidth, efficiency, walkoff angle

D. A. V. Kliner, F. Di Teodoro, J. P. Koplow, S. W. Moore, and A. V.Smith, "Efficient second, third, fourth, and fifth harmonic generation of a Yb-doped fiber amplifier," Opt. Comm. **210,** 393-398 (2002). Keywords: efficiency, nanosecond, sum-frequency

J. C. J. Koelemeij, W. Hogervorst, and W. Vassen, "High-power frequency-stabilized laser for laser cooling of metastable helium at 389 nm," Rev. Sci. Inst. **76,** 033104-1-4 (2005). Keywords: cw, efficiency, sum-frequency

H. Komine, "Thermal loading investigations of LBO/BBO crystals," SPIE **2145,** 327-331 (1994). Keywords: temperature tuning

H.-J. Krause and W. Daum, "Efficient parametric generation of high-power coherent picosecond pulses in lithium borate tunable from 0.405 to 2.4 μm," Appl. Phys. Lett. **60,** 2180-2182 (1992). Keywords: phasematch, efficiency, bandwidth

V. Kubecek, Y. Takagi, K. Yoshihara, and G. C. Reali, "Lithium triborate picosecond optical parametric oscillator," Opt. Comm. **91,** 93-96 (1992). Keywords: OPO, phasematch, Sellmeier

H. Kumagai, “Development of a continuous-wave deep-ultraviolet, and single-frequency coherent light source – challenges toward laser cooling of silicon,” IEEE J. Sel. Topics Quant. Electron. **10,** 1252-1258 (2005). Keywords: cw, efficiency, sum-frequency

H. Kumagai, Y. Asakawa, T. Iwane, K. Midoridawa, and M. Obara, “Efficient frequency doubling of 1-W continuous-wave Ti:sapphire laser with a robust high-finesse external cavity,” Appl. Opt. **42,** 1036-1039 (2003). Keywords: cw, efficiency, sum-frequency

Y. X. Leng, C. Wang, B. Z. Zhao, X. Y. Liang, Z. Q. Zhang, W. Y. Wang, Y. H. Jiang, L. H. Lin, R. X. Li, and Z. Z. Xu, “Broadband high-gain optical parametric chirped-pulse amplification near 780 nm with LBO-I near-degenerate near-collinear phase match,” Opt. Eng. **44,** 074201-1-5 (2005). Keywords: bandwidth, chirp, chirped pulse amplification, efficiency, femtosecond, OPA, phasematch

H. P. Li, C. H. Kam, Y. L. Lam, and W. Ji, “Femtosecond Z-scan measurements of nonlinear refraction in nonlinear optical crystals,” Opt. Mat. **15,** 237-242 (2001). Keywords: femtosecond, n_2, two-photon absorption

H.-Q. Li, A.-C. Geng, Y. Bo, Q.-J. Peng, D.-F. Cui, and Z.-Y. Xu, “A 18-W signal average power nanosecond LiB_3O_5 optical parametric oscillator around 860 nm and the beam quality,” Chin. Phys. Lett. **22,** 1694-1696 (2005). Keywords: efficiency, M^2, nanosecond, OPO

H. Q. Li, H. B. Zhang, Z. Bao, J. Zhang, Z. P. Sun, Y. P. Kong, Y. Bi, X. C. Lin, A. Y. Yao, G. L. Wang, W. Hou, R. N. Li, D. F. Cui, and Z. Y. Xu, “High-power nanosecond optical parametric oscillator based on a long LiB_3O_5 crystal,” Opt. Comm. **232,** 411-415 (2004). Keywords: efficiency, nanosecond, OPO, temperature tuning

J. T. Lin, “Recent advances of nonlinear crystals for frequency converters,” SPIE **1104,** 23-32 (1989). Keywords: phasematch, d_{eff}, walkoff, temperature bandwidth, acceptance angle

S. Lin, J. Y. Huang, J. Ling, C. Chen, and Y. R. Shen, “Optical parametric amplification in a lithium triborate crystal tunable from 0.65 to 2.5 μm,” Appl. Phys. Lett. **59,** 2805-2807 (1991). Keywords: Sellmeier, phasematch, n(T)

S. Lin, Z. Sun, B. Wu, and C. Chen, “The nonlinear optical characteristics of a LiB_3O_5 crystal,” J. Appl. Phys. **67,** 634-638 (1990). Keywords: d_{ij}, phasematch, walkoff

A. Liu, M. A. Norsen, and R. D. Mead, “60-W green output by frequency doubling of a polarized Yb-doped fiber laser,” Opt. Lett. **30,** 67-69 (2005). Keywords: efficiency, M^2, nanosecond, sum-frequency, temperature-bandwidth

H. J. Liu, W. Zhao, G. F. Chen, Y. S. Wang, L. J. Yu, C. Ruan, and K. Q. Lu, “Experimental and theoretical analysis of nondegenerate ultrabroadband chirped pulse optical parametric amplification,” Chin. Phys. Lett. **21,** 94-97 (2004). Keywords: OPA, bandwidth, chirp, chirped pulse amplification, efficiency, nanosecond

H. J. Liu, W. Zhao, G. F. Chen, Y. S. Wang, L. J. Yu, C. Ruan, and K. Q. Lu, “Noncollinear optical parametric amplification in lithium triborate seeded by a cw Ti:sapphire laser,” Opt. & Laser Tech. **36,** 309-314 (2004). Keywords: efficiency, ns, OPA

T.-M. Liu, C.-T. Yu, and C.-K. Sun, “2GHz repetition-rate femtosecond blue sources by second harmonic generation in a resonantly enhanced cavity,” Appl. Phys. Lett. **86,** 061112 (2005). Keywords: efficiency, femtosecond, sum-frequency

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, “Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators,” J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

X. Liu, L. Qian, and F. W. Wise, "Efficient generation of 50-fs red pulses by frequency doubling in LiB_3O_5," Opt. Comm. **144,** 265-268 (1997). Keywords: efficiency, femtosecond, group velocity, sum-frequency.

L. McDonagh and R. Wallenstein, "Low-noise 62 W cw intracavity-doubled TEM_{00} Nd:YVO_4 green laser pumped at 888 nm," Opt. Lett. **32,** 802-804 (2007). Keywords: cw, efficiency, M^2, sum-frequency

J. J. McFerran and A. N. Luiten, "Efficient continuous-wave ultraviolet generation in LiB_3O_5 and RbD_2AsO_4," Appl. Opt. **39,** 3115-3119 (2000). Keywords: acceptance angle, efficiency, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

R. P. Mildren, H. M. Pask, H. Ogilvy, and J. A. Piper, "Discretely tunable, all-solid-state laser in the green, yellow, and red," Opt. Lett. **30,** 1500-1502 (2005). Keywords: efficiency, nanosecond, sum-frequency, temperature tuning

A. K. Mohamed, A. Mustellier, J.-P. Faleni, and E. Rosencher, "Tunable ultraviolet intracavity tripled Ti:sapphire laser," Opt. Lett. **27,** 1457-1459 (2002). Keywords: bandwidth, efficiency, nanosecond, sum-frequency

A. Nebel and R. Beigang, "External frequency conversion of cw mode-locked Ti:Al_2O_3 laser radiation," Opt. Lett. **16,** 1729-1731 (1991). Keywords: efficiency, group velocity

X. Peng, L. Xu, and A. Asundi, "High-power efficient continuous-wave TEM_{00} intracavity frequency-doubled diode-pumped Nd:YLF laser," Appl. Opt. **44,** 800-807 (2005). Keywords: cw, efficiency, M^2, sum-frequency

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

N. A. Pylneva, N. G. Kononova, A. M. Yurkin, G. G. Bazarova, and V. I. Danilov, "Growth and non-linear optical properties of lithium triborate crystals," J. Crystal Growth **198/199,** 546-550 (1999). Keywords: damage, efficiency, Sellmeier, sum-frequency, transmission

P. L. Ramazza, S. Ducci, A. Zavatta, M. Bellini, and F. T. Arecchi, "Second-harmonic generation from a picosecond Ti:Sa laser in LBO: conversion efficiency and spatial properties," Appl. Phys. B **75,** 53-58 (2002). Keywords: d_{eff}, efficiency, phasematch, picosecond, sum-frequency

A. Robertson and A. I. Ferguson, "Synchronously pumped all-solid-state lithium triborate optical paramteric oscillator in a ring configuration," Opt. Lett. **19,** 117-119 (1994). Keywords: OPO, efficiency, temperature tuning

G. Robertson, A. Henderson, and M. H. Dunn, "Attainment of high efficiencies in optical parametric oscillators," Opt. Lett. **16,** 1584-1586 (1991). Keywords: OPO, efficiency

I. N. Ross, J. L. Collier, P. Matousek, C. N. Danson, D. Neely, R. M. Allott, D. A. Pepler, C. Hernandez-Gomez, and K. Osvay, "Generation of terawatt pulses by use of optical parametic chirped pulse amplification," Appl. Opt. **39,** 2422-2427 (2000). Keywords: bandwidth, chirped pulse amplification, difference frequency, efficiency, femtosecond

U. Roth, M. Trobs, T. Graf, J. E. Balmer, and H. P. Weber, "Proton and gamma radiation tests on nonlinear crystals," Appl. Opt. **41,** 464-469 (2002). Keywords: damage, efficiency, picosecond, sum-frequency, transmission

B. Ruffing, A. Nebel, and R. Wallenstein, "High-power picosecond LiB_3O_5 optical parametric oscillators tunable in the blue spectral range," Appl. Phys. B **72,** 137-149 (2001). Keywords: acceptance angle, bandwidth, chirp, d_{eff}, difference-frequency, efficiency, group velocity, M^2, OPO, phasematch, picosecond, sum-frequency, temperature-bandwidth, temperature tuning, walkoff angle

M. Scheid, F. Markert, J. Walz, J. Wang, M. Kirchner, and T. W. Hansch, "750 mW continuous-wave solid-state deep ultraviolet laser source at the 253.7 nm transition in mercury," Opt. Lett. **32,** 955-957 (2007). Keywords: cw, efficiency, sum-frequency

M. Sheik-Bahae and M. Ebrahimzadeh, "Measurements of nonlinear refraction in the second-order $\chi^{(2)}$ materials $KTiOPO_4$, $KNbO_3$, β-BaB_2O_4, and LiB_3O_5," Opt. Comm. **142,** 294-298 (1997). Keywords: n_2

G. A. Skripko, S. G. Baartoshevich, I. V. Mikhnyuk, and I. G. Tarazevich, "LiB_3O_5: a highly efficient frequency converter for Ti:sapphire lasers," Opt. Lett. **16,** 1726-1728 (1991). Keywords: phasematch, efficiency, acceptance angle, damage

F. Seifert, J. Ringling, F. Noack, V. Petrov, and O. Kittelmann, "Generation of femtosecond pulses to as low as 172.7 nm by sum-frequency mixing in lithium triborate," Opt. Lett. **19,** 1538-1540 (1994). Keywords: sum-frequency, femtosecond, phasematching

Z. Sun, R. Li, Y. Bi, X. Yang, Y. Bo, Y. Zhang, G. Wang, W. Zhao, H. Zhang, W. Hou, D. Cui, and Z. Xu, "Generation of 11.5 W coherent red-light by intra-cavity frequency-doubling of a side-pumped Nd:YAG laser in a 4-cm LBO," Opt. Comm. **241,** 167-172 (2004). Keywords: efficiency, M^2, nanosecond, sum-frequency

Z.-P. Sun, R.-N. Li, Y. Bi, X.-D. Yang, Y. Bo, W. Hou, Y. Zhang, G.-L. Wang, W.-L. Zhao, H.-B. Zhang, D.-F. Cui, and Z.-Y. Xu, "High-power red light generation by intra-cavity frequency-doubling of a side-pumped Nd:YAG laser in a LiB_3O_5 crystal," Chin. Phys. Lett. **21,** 1951-1953 (2004). Keywords: efficiency, M^2, nanosecond, sum-frequency

Z. Sun, R. Li, Y. Bi, X. Yang, Y. Bo, W. Hou, X. Lin, H. Zhang, D. Cui, and Z. Xu, "Generation of 4.3-W coherent blue light by frequency-tripling of a side-pumped Nd:YAG laser in LBO crystals," Opt. Exp. **26,** 6428-6433 (2004). Keywords: efficiency, M^2, nanosecond, sum-frequency

Y. Tang, Y. Cui, and M. H. Dunn, "Thermal dependence of the principal refractive indices of lithium triborate," J. Opt. Soc. Am. B **12,** 638-643 (1995). Keywords: dn/dT, phasematch, temperature tuning, temperature bandwidth

S. C. Tidwell, J. F. Seamans, D. D. Lowenthal, G. Matone, and G. Giordano, "Efficient high-power UV generation by use of a resonant ring driven by a cw mode-locked IR laser," Opt. Lett. **18,** 1517-1519 (1993). Keywords: efficiency

Y. Tang, Y. Cui, and M. H. Dunn, "Lithium triborate optical parametric oscillator pumped at 266 nm," Opt. Lett. **17,** 192-194 (1992). Keywords: OPO, phasematch, efficiency, walkoff, d_{eff}, temperature tuning

M. Tsunekane, S. Kimura, M. Kimura, N. Taguchi, and H. Inaba, "Broadband tuning of a continuous-wave, doubly resonant, lithium triborate optical parametric oscillator from 791 to 1620 nm," Appl. Opt. **37,** 6459-6462 (1998). Keywords: OPO, phasematch, temperature tuning

T. W. Tukker, C. Otto, J. Greve, "A narrow-bandwidth optical parametric oscillator," Opt. Comm. **154,** 83-86 (1998). Keywords: efficiency, OPO, picosecond

T. W. Tukker, C. Otto, J. Greve, "Design, optimization, and characterization of a narrow-bandwidth optical parametric oscillator," J. Opt. Soc. Am. B **16,** 90-95 (1999). Keywords: efficiency, OPO, phasematch, picosecond, temperature tune

Y. Uesugi, Y. Mizutani, and T. Kitagawa, "Developments of widely tunable light sources for picosecond time-resolved resonance Raman spectroscopy," Rev. Sci. Inst. **68,** 4001-4008 (1997). Keywords: bandwidth, difference-frequency, efficiency, group velocity, phasematch, picosecond, temperature tuning

T. Ukachi, R. J. Lane, W. R. Bosenberg, and C. L. Tang, "Measurements of noncritically phase-matched second-harmonic generation in a LiB_3O_5 crystal," Appl. Phys. Lett. **57,** 980-982 (1990). Keywords: temperature bandwidth, acceptance angle, temperature tuning

S. P. Velsko, M. Webb, L. Davis, and C. Huang, "Phase-matched harmonic generation in lithium triborate (LBO)," IEEE J. Quant. Electron. **27,** 2182-2192 (1991). Keywords: acceptance angle, d_{eff}, d_{ij}, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning, transmission, walkoff angle

K. F. Wall, J. S. Smucz, B. Pati, Y. Isyanova, P. F. Moulton, and J. G. Manni, "A quasi-continuous-wave deep ultraviolet laser source," IEEE J. Quant. Electron. **39,** 1160-1169 (2003). Keywords: efficiency, M^2, OPO, picosecond, sum-frequency

C. Q. Wang, L. Reekie, Y. T. Chow, and W. A. Gambling, "Efficient blue light generation from a diode laser pumped Nd:YAG laser," Opt. Comm. **167,** 155-158 (1999). Keywords: efficiency

L. J. Waxer, V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, "High-conversion-efficiency optical parametric chirped-pulse amplification system using spatiotemporally shaped pump pulses," Opt. Lett. **28,** 1245-1247 (2003). Keywords: bandwidth, chirped pulse amplification, efficiency, nanosecond, OPA, picosecond

F. Xie, B. Wu, G. You, and C. Chen, "Characterization of LiB_3O_5 crystal for second-harmonic generation," Opt. Lett. **16,** 1237-1239 (1991). Keywords: efficiency

S. T. Yang, C. C. Pohalski, E. K. Gustafson, R. L. Byer, R. S. Feigelson, R. J. Raymakers, and R. K. Route, "6.5-W, 532-nm radiation by resonant external-cavity second-harmonic generation of an 18-W Nd:YAG laser in LiB_3O_5," Opt. Lett. **16,** 1493-1495 (1991). Keywords: efficiency, M^2

X. Yang, Z. Xu, Y. Leng, H. Lu, L. Lin, Z. Zhang, R. Li, W. Zhang, D. Yin, and B. Tang, "Multiterawatt laser system based on optical parametric chirped pulse amplification," Opt. Lett. **27,** 1135-1137 (2002). Keywords: chirped pulse amplification, efficiency, femtosecond, OPA

A. Y. Yao, W. Hou, X. C. Lin, Y. Bi, R. N. Li, D. F. Cui, and Z. Y. Xu, "High power red laser at 671 nm by intracavity-doubled Nd:YVO_4 laser using LiB_3O_5," Opt. Comm. **231,** 413-416 (2004). Keywords: cw, efficiency, sum-frequency

J. Yao, W. Sheng, and W. Shi, "Accurate calculation of the optimum phase-matching parameters in three-wave interactions with biaxial nonlinear-optical crystals," J. Opt. Soc. Am. B **9,** 891-902 (1992). Keywords: phasematch, acceptance angle, walkoff angle, d_{eff}

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, "Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction," Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

J. Y. Zhang, J. Y. Huang, Y. R. Shen, C. Chen, and B. Wu, "Picosecond optical parametric amplification in lithium triborate," Appl. Phys. Lett. **58,** 213-215 (1991). Keywords: phasematch, efficiency, damage, d_{eff}, acceptance angle, group velocity

Q. Zheng, J. Wang, and L. Zhao, "2.23 W diode-pumped Nd:YVO_4/LBO laser at 671 nm," Opt. & Laser Tech. **36,** 485-487 (2004). Keywords: cw, efficiency, sum-frequency

$Li_2B_4O_7$ (LB4-Lithium tetraborate):

G. C. Bhar, P. Kumbhakar, and A. K. Chaudhary, "Generation of UV radiation in a lithium tetraborate crystal by walk-off compensated Type I sum-frequency mixing," Quant. Electron. **32,** 341-343 (2002). Keywords: acceptance angle, efficiency, nanosecond, phasematch, sum-frequency

U. Chatterjee, S. Gangopadhyay, C. Ghosh, P. K. Chattopadhyay, and G. C. Bhar, "Walk-off compensated UV generation in lithium tetraborate crystals," Jap. J. Appl. Phys. **43,** 4190-4194 (2004). Keywords: efficiency, nanosecond, sum-frequency, transmission

U. Chatterjee, S. Gangopadhyay, C. Ghosh, and G. C. Bhar, "Multipass configuration to achieve high-frequency conversion in $Li_2B_4O_7$ crystals," Appl. Opt. **44,** 817-821 (2005). Keywords: efficiency, nanosecond, sum-frequency

U. Chatterjee, P. Kumbhakar, A. K. Chaudhary, G. C. Bhar, "Tunable near-inrared radiation by difference frequency mixing in lithium tetraborate crystal," Appl. Phys. B **72,** 407-409 (2001). Keywords: difference-frequency, efficiency, phasematch, sum-frequency

M. Divall, K. Osvay, G. Kurdi, E. J. Divall, J. Klebniczki, J. Bohus, A. Peter, and K. Polgar, "Two-photon-absorption of frequency converter crystals at 248 nm," Appl. Phys. B (2005). Keywords: two-photon absorption

D. Kasprowicz, J. Kroupa, A. Majchrowski, E. Michalski, M. Drozdowski, and J. Zmija, "Elastic and nonlinear optical properties of lithium tetraborate," Cryst. Res. Technol. **38,** 374-378 (2003). Keywords: crystal structure, d_{ij}

Komatsu, T. Sugawara, K. Sassa, N. Sarukura, Z. Liu, S. Izumida, Y. Segawa, S. Uda, T. Fukuda, and K. Yamanouchi, "Growth and ultraviolet application of $Li_2B_4O_7$ crystals: Generation of the fourth and fifth harmonics of Nd:$Y_3Al_5O_{12}$ lasers," Appl. Phys. Lett. **70,** 3492-3494 (1997). Keywords: damage, efficiency, phasematch, sum-frequency, transmission

P. Kumbhakar and T. Kobayashi, "Nonlinear optical properties of $Li_2B_4O_7$ (LB4) crystal for the generation of tunable ultra-fast laser radiation by optical parametric amplification," Appl. Phys. B (2003). Keywords: femtosecond, group velocity, OPA, phasematch

G. Kurdi, K. Osvay, M. Csatart, I. N. Ross, and J. Klebniczki, "Optical parametric amplification of femtosecond ultraviolet laser pulses," IEEE J. Sel. Top. Quant. Electron. **10,** 1259-1267 (2004). Keywords: bandwidth, femtosecond, OPA, transmission, two-photon absorption

V. Petrov, F. Rotermund, F. Noack, R. Komatsu, T. Sugawara, and S. Uda, "Vacuum ultraviolet application of $Li_2B_4O_7$ crystals: Generation of 100 fs pulses down to 170 nm," J. Appl. Phys. **84,** 5887-5892 (1998). Keywords: d_{eff}, efficiency, femtosecond, group velocity, phasematch, Sellmeier, sum-frequency, transmission, two-photon absorption

V. Petrov, F. Rotermund, F. Noack, J. Ringling, O. Kittelmann, and R. Komatsu, "Frequency conversion of Ti:Sapphire-based femtosecond laser systems to the 200-nm spectral region using nonlinear optical crystals," IEEE J. Select. Top. Quant. Electron. **5,** 1532-1542 (1999). Keywords: bandwidth, d_{eff}, difference-frequency, efficiency, femtosecond, group velocity, phasematch, sum-frequency, transmission

T. Sugawara, R. Komatsu, and S. Uda, "Surface damage and radiation resistance of lithium tetraborate single crystals," Opt. Mat. **13,** 225-229 (1999). Keywords: crystal growth, crystal structure, damage, transmission

$LiCOOH \bullet H_2O$ (LFM-lithium formate):

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

$LiGaO_2$:

F. Brehat and B. Wyncke, "Calculation of double-refraction walk-off angle along the phase-matching directions in nonlinear biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 1891-1898 (1989). Keywords: phasematch, walkoff

B. Wyncke and F. Brehat, "Calculation of the effective second-order non-linear coefficients along the phase matching directions in acentric orthorhombic biaxial crystals," J. Phys. B: At. Mol. Opt. Phys. **22,** 363-376 (1989). Keywords: phasematch, d_{eff}

$LiGaS_2$:

V. Petrov, A. Yelisseyev, L. Isaenko, S. Lobanov, A. Titov, and J.-J. Zondy, "Second harmonic generation and optical parametric amplification in the mid-IR with orthorhombic biaxial crystals $LiGaS_2$ and $LiGaSe_2$," Appl. Phys. B **78,** 543-546 (2004). Keywords: damage, d_{ij}, efficiency, femtosecond, group velocity, OPA, phasematch, Sellmeier, sum-frequency, transmission, two-photon absorption

$LiGaSe_2$:

V. Petrov, A. Yelisseyev, L. Isaenko, S. Lobanov, A. Titov, and J.-J. Zondy, "Second harmonic generation and optical parametric amplification in the mid-IR with orthorhombic biaxial crystals $LiGaS_2$ and $LiGaSe_2$," Appl. Phys. B **78,** 543-546 (2004). Keywords: damage, d_{ij}, efficiency, femtosecond, group velocity, OPA, phasematch, Sellmeier, sum-frequency, transmission, two-photon absorption

$LiGaTe_2$:

L. Isaenko, P. Krinitsin, V. Vedenyapin, A. Yelisseyev, A. Merkulov, J.-J. Zondy, and V. Petrov, "$LiGaTe_2$: A new highly nonlinear chalcopyrite optical crystal for the mid-IR," Crystal Grow. & Design **5,** 1325-1329 (2005). Keywords: crystal growth, crystal structure, d_{ij}, phasematch, Sellmeier, sum-frequency, transmission

$LiIO_3$:

G. Borsa, S. Castelletto, A. Godone, C. Novero, and M. L. Rastello, "Measurement of second-order optical nonlinear coefficient from the absolute radiant power of parametric fluorescence in $LiIO_3$," Opt. Rev. **4,** 484-489 (1997). Keywords: d_{eff}, d_{ij}, OPF

G. Brida, M. Genovese, and C. Novero, "On the measurement of photon flux in parametric down-conversion," Eur. Phys. J. D **8,** 273-275 (2000). Keywords: damage, d_{eff}, d_{ij}, OPF, phasematch

U. Chatterjee, A. M. Rundra, and G. C. Bhar, "Generation of 6.8-7.7 μm radiation in lithium iodate," Appl. Phys. B **61,** 489-391 (1995). Keywords: transmission, difference-frequency, phasematch

M. M. Choy and R. L. Byer, "Accurate second-order susceptibility measurements of visible and infrared nonlinear crystals," Phys. Rev. B **14,** 1693-1706 (1976). Keywords: d_{ij}

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, MgO:$LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

R. J. Gehr and A. V. Smith, "Separated-beam nonphase-matched second-harmonic method of characterizing nonlinear optical crystals," J. Opt. Soc. Am. B **15,** 2298-2307 (1998). Keywords: d_{eff}, d_{ij}, phasematch, sum-frequency

G. Ghosh, "Thermo-optic coefficients of $LiNbO_3$, $LiIO_3$, and $LiTaO_3$ nonlinear crystals," Opt. Lett. **19,** 1391-1393 (1994). Keywords: n(T)

K. Kato, "High-power difference-frequency generation at 4.4-5.7 μm in $LiIO_3$," IEEE J. Quant. Electron. **QE-21,** 119-120 (1985). Keywords: difference-frequency, efficiency, phasematch

T. Kellner, F. Heine, and G. Huber, "Efficient laser performance of Nd:YAG at 946 nm and intracavity frequency doubling of $LiIO_3$, β-BaB_2O_4, and LiB_3O_5," Appl. Phys. B **65,** 789-792 (1998). Keywords: acceptance angle, bandwidth, efficiency, walkoff angle

V. Krylov, A. Kalintsev, A. Rebane, D. Erni, and U. P. Wild, "Noncollinear parametric generation in $LiIO_3$ and β-barium borate by frequency-doubled femtosecond Ti:sapphire laser pulses," Opt. Lett. **20,** 151-153, (1995). Keywords: efficiency, femtosecond, group velocity, phasematch

T. Laurila and R. Hernberg, "Frequency-doubled diode laser for ultraviolet absorption spectroscopy at 325 nm," Appl. Phys. Lett. **83,** 845-847 (2003). Keywords: cw, efficiency, sum-frequency, transmission

X. Liu, D. Deng, M. Li, D. Guo, and Z. Xu, "Retracing behavior of the phase-matching angle of nonlinear crystals in optical parametric oscillators," J. Appl. Phys. **74,** 2989-2991 (1993). Keywords: phasematch

A. Nebel and R. Beigang, "External frequency conversion of cw mode-locked Ti:Al_2O_3 laser radiation," Opt. Lett. **16,** 1729-1731 (1991). Keywords: efficiency, group velocity

$LiInS_2$:

O. Balachninaite, L. Petraviciute, M. Maciulevicius, V. Sirutkaitis, L. Isaenko, S. Lobanov, A. Yelisseyev, and J.-J. Zondy, "Optical characterization of the $LiInS_2$ and $LiInSe_2$ crystals," SPIE **6403,** 64031Y-1-6 (2007). Keywords: transmission

W. Chen, E. Poullet, J. Burie, D. Boucher, M. W. Sigrist, J.-J. Zondy, L. Isaenko, A. Yelisseyev, and S. Lobanov, "Widely tunable continuous-wave mid-infrared radiation (5.5-11 μm) by difference-frequency generation in $LiInS_2$ crystal," Appl. Opt. **44,** 4123-4129 (2005). Keywords: acceptance angle, bandwidth, cw, d_{eff}, difference-frequency, efficiency, phasematch, Sellmeier, temperature tuning, walkoff angle

S. Fossier, S. Salaun, J. Mangin, O. Bidault, I. Thenot, J.-J. Zondy, W. Chen, F. Rotermund, V. Petrov, P. Petrov, J. Henningsen, A. Yelisseyev, L. Isaenko, S. Lobanov, O. Balachninaite, G. Slekys, and V. Sirutkaitis, "Optical, vibrational, thermal, electrical, damage, and phase-matching properties of lithium

thioindate," J. Opt. Soc. Am. B **21,** 1981-2007 (2004). Keywords: acceptance angle, bandwidth cw, damage, difference-frequency, phasematch, temperature tuning, thermal expansion, transmission

G. M. H. Knippels, A. F. G. van der Meer, A. M. MacLeod, A. Yelisseyev, L. Isaenko, S. Lobanov, I. Thenot, and J.-J. Zondy, "Mid-infrared (2.75-6.0-μm) second-harmonic generation in $LiInS_2$," Opt. Lett. **26,** 617-619 (2001). Keywords: acceptance angle, crystal growth, damage, d_{eff}, phasematch, picosecond, sum-frequency, thermal conductivity, transmission

F. Rotermund, V. Petrov, F. Noack, L. Isaenko, A. Yelisseyev, and S. Lobanov, "Optical parametric generation of femtosecond pulses up to 9 μm with $LiInS_2$ pumped at 800 nm," Appl. Phys. Lett. **78,** 2623-2625 (2001). Keywords: crystal structure, damage, d_{ij}, difference-frequency, efficiency, femtosecond, Sellmeier, transmission

$LiInSe_2$:

V. V. Badikov, V. I. Chizhikov, V. V. Efimenko, T. D. Efimenko, V. L. Panyutin, G. S. Shevyrdyaeva, and S. I. Scherbakov, "Optical properties of lithium indium selenide," Opt. Mater. **23,** 575-581 (2003). Keywords: crystal growth, crystal structure, phasematch, Sellmeier, transmission

O. Balachninaite, L. Petraviciute, M. Maciulevicius, V. Sirutkaitis, L. Isaenko, S. Lobanov, A. Yelisseyev, and J.-J. Zondy, "Optical characterization of the $LiInS_2$ and $LiInSe_2$ crystals," SPIE **6403,** 64031Y-1-6 (2007). Keywords: transmission

L. Isaenko, A. Yelisseyev, S. Lobanov, V. Petrov, F. Rotermund, G. Slekys, and J.-J. Zondy, "$LiInSe_2$: A biaxial ternary chalcogenide crystal for nonlinear optical applications in the midinfrared," J. Appl. Phys. **91,** 9475-9480 (2002). Keywords: crystal growth, crystal structure, d_{ij}, Sellmeier, sum-frequency, transmission

J.-J. Zondy, V. Vedenyapin, A. Yelisseyev, S. Lobanov, L. Isaenko, and V. Petrov, "$LiInSe_2$ nanosecond optical parametric oscillator," Opt. Lett. **30,** 2460-2462 (2005). Keywords: damage, d_{eff}, efficiency, nanosecond, OPO, phasematch, transmission

$LiNbO_3$:

H. Abitan and P. Buchhave, "Continuous-wave singly resonant optical parametric oscillator planced inside a ring laser," Appl. Opt. **42,** 6630-6635 (2003). Keywords: cw, efficiency, OPO, quasiphasematch

S. Acco, P. Blau, S. Pearl, and A. Arie, "Optical parametric generation at extremely low pump irradiance in a long periodically poled lithium niobate," SPIE **6455,** 64551A-1-7 (2007). Keywords: bandwidth, efficiency, nanosecond, OPG, quasiphasematch

T. Andres, P. Haag, S. Zelt, J.-P. Meyn, A. Borsutzky, R. Beigang, and R. Wallenstein, "Synchronously pumped femtosecond optical parametric oscillator of congruent and stoichiometric MgO-doped periodically poled lithium niobate," Appl. Phys. B **76,** 241-244 (2003). Keywords: chirp, d_{ij}, damage, efficiency, femtosecond, OPO, pump tuning, quasiphasematch, transmission

K. W. Aniolek, R. L. Schmitt, T. J. Kulp, B. A. Richman, S. E. Bisson, and P. E. Powers, "Microlaser-pumped periodically poled lithium niobate optical parametric generator-optical parametric amplifier," Opt. Lett. **25,** 557-559 (2000). Keywords: effieciency, OPA, OPG, quasiphasematch

M. A. Arbore, M. M. Fejer, M. E. Fermann, A. Hariharan, A. Galvanauskas, and D. Harter, "Frequency doubling of femtosecond erbium-fiber soliton lasers in periodically poled lithium niobate," Opt. Lett. **22,** 13-15 (1997). Keywords: efficiency, femtosecond

M. Asobe, O. Tadanaga, H. Miyazawa, Y. Nishida, and H. Suzuki, "Multiple quasi-phase-matched $LiNbO_3$ wavelength converter with a continuously phase-modulated domain structure," Opt. Lett. **28,** 558-560 (2003). Keywords: bandwidth, cw, difference-frequency, efficiency, quasiphasematch, waveguides

M. Asobe, H. Miyazawa, O. Tadanage, Y. Nishida, and H. Suzuki, "A highly damage-resistant Zn:$LiNbO_3$ ridge waveguide and its application to a polarization-independent wavelength converter," IEEE J. Quant. Electron. **39,** 1327-1333 (2003). Keywords: cw, damage, difference-frequency, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, waveguides

U. Bader, J. Bartschke, I. Klimov, A. Borsutzky, and R. Wallenstein, "Optical parametric oscillator of quasi-phasematched $LiNbO_3$ pumped by a compact high repetition rate single-frequency passively Q-switched Nd:YAG laser," Opt. Comm. **147,** 95-98 (1998). Keywords: bandwidth, efficiency, OPO, quasiphasematch, temperature tuning

U. Bader, T. Mattern, T. Bauer, J. Bartschke, M. Rahm, A. Borsutzky, and R. Wallenstein, "Pulsed nanosecond optical parametric generator based on periodically poled lithium niobate," Opt. Comm. **217,** 375-380 (2003). Keywords: bandwidth, d_{eff}, efficiency, M^2, nanosecond, OPG, quasiphasematch

U. Bader, J.-P. Meyn, J. Bartschke, T. Weber, A. Borsutzky, R. Wallenstein, R. G. Batchko, M. M. Fejer, and R. L. Byer, "Nanosecond periodically poled lithium niobate optical parametric generator pumped at 532 nm by a single-frequency passively Q-switched Nd:YAG laser," Opt. Lett. **24,** 1608-1610 (1999). Keywords: bandwidth, efficiency, OPG, phasematch, quasiphasematch

O. Balachninaite, R. Grigonis, V. Sirutkaitis, and R. C. Eckardt, "A coherent spectrophotometer based on a periodically poled lithium niobate optical parametric oscillator," Opt. Comm. **248,** 15-25 (2005). Keywords: efficiency, M^2, nanosecond, OPO, quasiphasematch, temperature tuning

L. Barraco, A. Grisard, E. Lallier, P. Bourdon, and J.-P. Pocholle, "Self-optical parametric oscillation in periodically poled neodymium-doped lithium niobate," Opt. Lett. **27,** 1540-1542 (2002). Keywords: efficiency, ferroelectric poling, flourescence, nanosecond, OPO, quasiphasematch

R. G. Batchko, M. M. Fejer, R. L. Byer, D. Woll, R. Wallenstein, V. Y. Shur, and L. Erman, "Continuous-wave quasi-phase-matched generation of 60 mW at 465 nm by single-pass frequency doubling of a laser diode in backswitch-poled lithium niobate," Opt. Lett. **24,** 1293-1295 (1999). Keywords: d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

R. G. Batchko, V. Y. Shur, M. M. Fejer, and R. L. Byer, "Backswitch poling in lithium niobate for high-fidelity domain patterning and efficient blue light generation," Appl. Phys. Lett. **75,** 1673-1675 (1999). Keywords: d_{eff}, efficiency, ferroelectric poling, quasiphasematch, temperature-bandwidth

R. G. Batchko, D. R. Weise, T. Plettner, G. D. Miller, M. M. Fejer, and R. L. Byer, "Continuous-wave 532-nm-pumped singly resonant optical parametric oscillator based on periodically poled lithium niobate," Opt. Lett. **23,** 168-170 (1998). Keywords: efficiency, OPO, phasematch, quasiphasematch, two-photon absorption

G. W. Baxter, P. Schlup, and L. T. McKinnie, "Efficient, single frequency, high repetition rate, PPLN OPO pumped by a prelase Q-switched diode-pumped Nd:YAG laser," Appl. Phys. B. **70,** 301-304 (2000). Keywords: bandwidth, efficiency, M^2, OPO, quasiphasematch

T. Beddard, M. Ebrahimzadeh, T. D. Reid, and W. Sibbett, "Five-optical-cycle pulse generation in the mid infrared from an optical parametric oscillator based on aperiodically poled lithium niobate," Opt. Lett. **25,** 1052-1054 (2000). Keywords: bandwidth, chirp, efficiency, femtosecond, group velocity, OPO, quasiphasematch

M. Belmonte, T. Skettrup, and C. Pederson, "Frequency doubling in $LiNbO_3$ using temperature-dependent QPM," J. Opt. A: Pure Appl. Opt. **1,** 60-63 (1999). Keywords: phasematch, quasiphasematch, temperature tuning

O. Beyer, D. Maxein, K. Buse, B. Sturman, H. T. Hsieh, and D. Psaltis, "Femtosecond time-resolved absorption processes in lithium niobate crystals," Opt. Lett. **30,** 1366-1368 (2005). Keywords: femtosecond, two-photon absorption

S. E. Bisson, K. M. Armstrong, T. J. Kulp, and M. Hartings, "Broadly tunable, mode-hop-tuned cw optical parametric oscillator based on periodically poled lithium niobate," Appl. Opt. **40,** 6049-6055 (2001). Keywords: efficiency, OPO, quasiphasematch

M. Bode, P. K. Lam, I. Freitag, A. Tunnermann, H.-A. Bachor, and H. Welling, "Continuously-tunable doubly resonant optical parametric oscillator," Opt. Comm. **148,** 117-121 (1998). Keywords: efficiency, OPO, phasematch, temperature tuning

W. R. Bosenberg, J. I. Alexander, L. E. Myers, and R. W. Wallace, "2.5-W, continuous-wave, 629-nm solid-state laser source," Opt. Lett. **23,** 207-209 (1998). Keywords: damage, efficiency, OPO, quasiphasematch, sum-frequency, temperature bandwidth, temperature tuning

W. R. Bosenberg, A. Drobshoff, J. I. Alexander, L. E. Myers, and R. L. Byer, "Continuous-wave singly resonant optical parametric oscillator based on periodically poled $LiNbO_3$," Opt. Lett. **21,** 713 (1996). Keywords: efficiency, OPO, phasematch

W. R. Bosenberg, A. Drobshoff, J. I. Alexander, L. E. Myers, and R. L. Byer, "93% pump depletion, 3.5-W continuous-wave, singly resonant optical parametric oscillator," Opt. Lett. **21,** 1336 (1996). Keywords: efficiency, OPO

B. Boulanger, P. Segonds, J.-P. Feve, O. Pacaud, B. Menaert, and J. Zaccaro, "Spheres and cylinders in parametric nonlinear optics," Opt. Mater. **26,** 459-464 (2004). Keywords: quasiphasematch

R. T. Bratfalean, A. C. Peacock, N. G. R. Broderick, K. Gallo, and R. Lewen, "Harmonic generation in a two-dimensional nonlinear quasi-crystal," Opt. Lett. **30,** 424-426 (2005). Keywords: efficiency, ferroelectric poling, nanosecond, pump tuning, quasiphasematch, sum-frequency, temperature tuning

P. E. Britton, H. L. Offerhaus, D. J. Richardson, P. G. R. Smith, G. W. Ross, and D. C. Hanna, "Parametric oscillator directly pumped by a 1.55 μm erbium-fiber laser," Opt. Lett. **24,** 975-977 (1999). Keywords: efficiency, OPO, phasematch, pump tuning, quasiphasematch, temperature tuning

P. E. Britton, D. Taverner, K. Puech, D. J. Richardson, P. G. R. Smith, G. W. Ross, and D. C. Hanna, "Optical parametric oscillation in periodically poled lithium niobate driven by a diode-pumped Q-switched erbium fiber laser," Opt. Lett. **23,** 582-585 (1998). Keywords: efficiency, OPO, phasematch, quasiphasematch, temperature tuning

F. Brunner, E. Innerhofer, S. V. Marchese, T. Sudmeyer, R. Paschotta, T. Usami, H. Ito, S. Kurimura, K. Kitamura, G. Arisholm, and U. Keller, "Powerful red-green-blue laser source pumped with a mode-locked thin disk laser," Opt. Lett. **29,** 1921-1923 (2004). Keywords: efficiency, picosecond, sum-frequency

K. C. Burr, C. L. Tang, M. A. Arbore, and M. M. Fejer, "High-repetition-rate femtosecond optical parametric oscillator based on periodically poled lithium niobate," Appl. Phys. Lett. **70,** 3341-3343 (1997). Keywords: femtosecond, OPO, quasiphasematch

A. C. Busacca, C. L. Sones, R. W. Eason, and S. Mailis, "First-order quasi-phase-matched blue light generation in surface-poled Ti:indiffused lithium niobate waveguides," Appl. Phys. Lett. **84,** 4430-4432 (2004). Keywords: cw, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, waveguides

S. D. Butterworth, V. Pruneri, and D. C. Hanna, "Optical parametric oscillation in periodically poled lithium niobate based on continuous-wave synchronous pumping at 1.047 μm," Opt. Lett. **21,** 1345 (1996). Keywords: OPO, picosecond, efficiency, temperature tuning, acceptance bandwidth

J. Capmany, D. Callejo, V. Bermudez, E. Dieguez, D. Artigas, and L. Torner, "Continuous-wave self-pumped optical parametric oscillator based on Yb^{3+} - doped bulk periodically poled $LiNbO_3$ (MgO)," Appl. Opt. Lett. **79,** 293-295 (2001). Keywords: crystal growth, efficiency, OPO, quasiphasematch

J. Capmany, E. Montoya, V. Bermudez, D. Callejo, E. Dieguez, and L. E. Bausa, "Self-frequency doubling in Yb^{3+} doped periodically poled $LiNbO_3$:MgO bulk crystal," Appl. Phys. Lett. **76,** 1374-1376 (2000). Keywords: bandwidth, crystal growth, damage, efficiency, quasiphasematch, sum-frequency

J. Capmany, J. A. Pereda, V. Bermudez, D. Callejo, and E. Dieguez, "Laser frequency converter for continuous-wave tunable Ti:sapphire lasers based on aperiodically poled $LiNbO_3$:Nd^{3+}," Appl. Phys. Lett. **79,** 1751-1753 (2001). Keywords: crystal growth, damage, efficiency, quasiphasematch, sum-frequency

L. Chanvillard, P. Aschieri, P. Baldi, D. B. Ostrowsky, M. de Micheli, L. Huang, and D. J. Bamford, "Soft proton exchange on periodically poled $LiNbO_3$: A simple waveguide fabrication process for highly efficient nonlinear interactions," Appl. Phys. Lett. **76,** 1089-1091 (2000). Keywords: flourescence, quasiphasematch, waveguides

D. Chen, D. Hinkley, J. Pyo, J. Swenson, and R. Fields, "Single-frequency low-threshold continuous-wave 3-μm periodically poled lithium niobate optical parametric oscillator," J. Opt. Soc. Am. B **15,** 1693-1697 (1998). Keywords: efficiency, OPO, quasiphasematch, temperature tuning

D.-W. Chen, "Continuous-wave tunable midwave infrared generation near 4.5 μm with an intracavity optical parametric oscillator and difference frequency generation," J. Opt. Soc. Am. B **20,** 1527-1531 (2003). Keywords: bandwidth, cw, damage, difference-frequency, efficiency, quasiphasematch, temperature tuning

D.-W. Chen and K. Masters, "Continuous-wave 4.3-μm intracavity difference frequency generation in an optical parametric oscillator," Opt. Lett. **26,** 25-27 (2001). Keywords: bandwidth, difference-frequency, efficiency, OPO, quasiphasematch, temperature-bandwidth, temperature tuning

Y. H. Chen, F. C. Fan, Y. Y. Lin, Y. C. Huang, J. T. Shy, Y. P. Lan, and Y. F. Chen, "Simultaneous amplitude modulation and wavelength conversion in an asymmetric-duty-cycle periodically poled lithium niobate," Opt. Comm. **223,** 417-423 (2003). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

Y.-H. Chen, J.-H. Yao, B.-X. Yan, H.-L. Deng, Y.-F. Kong, S.-L. Chen, J.-J. Xu, and G.-Y. Zhang, "Harmonic violet light generation in periodically poled bulk near-stoichiometric MgO-doped $LiNbO_3$," Opt. Comm. **224,** 149-153 (2003). Keywords: crystal growth, damage, efficiency, femtosecond, ferroelectric poling, quasiphasematch, sum-frequency, transmission

Y. Chen, J. Guo, X. Liu, C. Lou, J. Yuan, Y. Luo, J. Xu, and S. Chen, "Highly efficient blue light of femtosecond pulses by second-harmonic generation in periodically poled MgO:$LiNbO_3$," Opt. Comm. **238,** 201-204 (2004). Keywords: cw, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

Y. L. Chen, J. Guo, C. B. Lou, J. W. Yuan, W. L. Zhang, S. L. Chen, Z. H. Huang, and G. Y. Zhang, "Crystal growth and characteristics of 6.5 mol% MgO-doped $LiNbO_3$," J. Cryst. Growth **263,** 427-430 (2004). Keywords: crystal growth, damage, ferroelectric poling, transmission

Y. L. Chen, J. W. Yuan, C. F. Yan, J. J. Xu, and G. Y. Zhang, "Low-pump-threshold tunable optical parametric oscillator using periodically poled MgO:$LiNbO_3$," Opt. Comm. **273,** 560-563 (2007). Keywords: efficiency, nanosecond, OPO, quasiphasematch, temperature tuning

A. C. Chiang, Y. C. Huang, Y. W. Fang, and Y. H. Chen, "Compact, 220-ps visible laser employing single-pass, cascaded frequency conversion in monolithic periodically poled lithium niobate," Opt. Lett. **26,** 66-68 (2001). Keywords: efficiency, OPG, picosecond, quasiphasematch, sum-frequency

A. C. Chiang, Y. Y. Lin, T. D. Wang, Y. C. Huang, and J. T. Shy, "Distributed-feedback optical parametric oscillation by use of a photorefractive grating in periodically poled lithium niobate," Opt. Lett. **27,** 1815-1817 (2002). Keywords: efficiency, nanosecond, OPG, OPO, quasiphasematch, temperature tuning

M. M. Choy and R. L. Byer, "Accurate second-order susceptibility measurements of visible and infrared nonlinear crystals," Phys. Rev. B **14,** 1693-1706 (1976). Keywords: d_{ij}

T. Chuang and R. Burnham, "Multiband generation of mid infrared by use of periodically poled lithium niobate," Opt. Lett. **23,** 43-45 (1998). Keywords: efficiency, OPO, phasematch, quasiphasematch, temperature tuning

R. S. Conroy, C. F. Rae, M. H. Dunn, B. D. Sinclair, and J. M. Ley, "Compact, actively Q-switched optical parametric oscillator," Opt. Lett. **24,** 1614-1616 (1999). Keywords: efficiency, OPO, quasiphasematch, temperature tuning

J. R. Danielson, N. Amer, and Y.-S. Lee, "Generation of arbitrary terahertz wave forms in fanned-out periodically poled lithium niobate," Appl. Phys. Lett. **89,** 211118 (2006). Keywords: femtosecond, THz

J. Deng, W. Zhang, J. Wen, G. Zhang, and H. Wang, "Pulsed-laser-induced dark traces in $LiNbO_3$:Zn and $LiNbO_3$:Mg," Opt. Lett. **19,** 933-935 (1994). Keywords: efficiency, damage, transmission

W. Denzer, G. Hancock, A. Hutchinson, M. Munday, R. Peverall, and G. A. D. Ritchie, "Mid-infrared generation and spectroscopy with a PPLN ridge waveguide," Appl. Phys. B (2007). Keywords: cw, difference-frequency, efficiency, quasiphasematch, temperature-bandwidth, waveguides

S. Desmoulins and F. Di Teodoro, "Watt-level, high-repetition-rate, mid-infrared pulses generated by wavelength conversion of an eye-safe fiber source," Opt. Lett. **32,** 56-58 (2007). Keywords: efficiency, M^2, nanosecond, OPO, quasiphasematch

A. Desormeaux, M. Lefebvre, E. Rosencher, and J.-P. Huignard, "Mid-infrared high-resolution absorption spectroscopy by use of a semimonolithic entangled-cavity optical parametric oscillator," Opt. Lett. **29,** 2887-2889 (2004). Keywords: efficiency, M^2, nanosecond, OPO

S. Diao, J. Yao, Y. Zheng, Y. Geng, X. Tan, Q. Liu, and L. Xu, "Widely and continuously tunable optical parametric generator based on MgO-doped periodically poled $LiNbO_3$ crystal," Chin. Opt. Lett. **4,** 539-541 (2006). Keywords: bandwidth, efficiency, nanosecond, OPG, quasiphasematch, temperature tuning

M. Ebrahimzadeh, P. J. Phillips, and S. Das, "Low-threshold mid-infrared optical parametric oscillation in periodically poled $LiNbO_3$ synchronously pumped by a Ti:sapphire laser," Appl. Phys. B **72,** 793-801 (2001). Keywords: bandwidth, efficiency, OPO, phasematch, picosecond, pump tuning, quasiphasematch

M. Ebrahimzadeh, G. A. Turnbull, T. J. Edwards, D. J. M. Stothard, I. D. Lindsay, and M. H. Dunn, "Intracavity continuous-wave singly resonant optical parametric oscillators," J. Opt. Soc. Am. B **16,** 1499-1511 (1999). Keywords: efficiency, OPO, quasiphasematch, temperature tuning

R. C. Eckardt, H. Masuda, Y. X. Fan, and R. L. Byer, "Absolute and relative nonlinear optical coefficients of KDP, KD^*P, BaB_2O_4, $LiIO_3$, MgO:$LiNbO_3$, and KTP measured by phase-matched second-harmonic generation," IEEE J. Quant. Electron. **QE-26,** 922-933 (1990). Keywords: d_{ij}, acceptance angle

D. Eimerl, S. Velsko, L. Davis, and F. Wang, "Progress in nonlinear optical materials for high power lasers," Progress in Crystal Growth and Charact. **20,** 59-113 (1990) Pergamon Press. Keywords: damage, acceptance angle, Sellmeier, d_{ij}, d_{eff}, phasematch, temperature bandwidth

C. Erny, K. Moutzouris, J. Biegert, D. Kuhlke, F. Adler, A. Leitenstorfer, and U. Keller, "Mid-infrared difference-frequency generation of ultrashort pulses tunable between 3.2 and 4.8 μm from a compact fiber source," Opt. Lett. **32,** 1138-1140 (2007). Keywords: difference-frequency, femtosecond

M. D. Ewbank, M. J. Rosker, and G. L. Bennett, "Frequency tuning a mid-infrared optical parametric oscillator by the electro-optic effect," J. Opt. Soc. Am. B **14,** 666-671 (1997). Keywords: OPO, phasematch

D. Feng, "Ferroelectric crystals with periodic laminar domains: a new type of nonlinear optical material," CLEO 1987 Paper TUGG1. Keywords: ferroelectric poling

J.-P. Feve, B. Boulanger, B. Menaert, and O. Pacaud, "Continuous tuning of a microlaser-pumped optical parametric generator by use of a cylindrical periodically poled lithium niobate crystal," Opt. Lett. **28,** 1028-1030 (2003). Keywords: bandwidth, efficiency, M^2, OPG, picosecond, quasiphasematch

K. Finsterbusch, R. Urschel, and H. Zacharias, "Fourier-transform-limited, high-power picosecond optical parametric oscillator based on periodically poled lithium niobate," Appl. Phys. B **70,** 741-746 (2000). Keywords: bandwidth, efficiency, OPO, picosecond, quasiphasematch, temperature tuning

M. Fontana, K. Chah, M. Aillerie, R. Mouras, and P. Bourson, "Optical damage resistance in undoped $LiNbO_3$ crystals," Opt. Mat. **16,** 111-117 (2001). Keywords: crystal growth, damage

Y. Furukawa, K. Kitamura, A. Alexandrovski, R. K. Route, M. M. Fejer, and G. Foulon, "Green-induced infrared absorption in MgO doped $LiNbO_3$," Appl. Phys. Lett. **78,** 1970-1972 (2001). Keywords: damage

A. Galvanauskas, M. A. Arbore, M. M. Fejer, M. E. Fermann, and D. Harter, "Fiber-laser-based femtosecond parametric generator in bulk periodically poled $LiNbO_3$," Opt. Lett. **22,** 105-107 (1997). Keywords: efficiency, femtosecond, quasiphasematch, temperature tuning

A. Galvanauskas, A. Hariharan, D. Harter, M. A. Arbore, and M. M. Fejer, "High-energy femtosecond pulse amplification in a quasi-phase-matched parametric amplifier," Opt. Lett. **23,** 210-212 (1998). Keywords: chirp, chirped pulse amplification, damage, difference-frequency, efficiency, femtosecond, quasiphasematch

F. Genereux, G. Baldenberger, B. Bourliaguet, and R. Vallee, "Low-voltage tunable second-harmonic generation in an x-cut periodically poled lithium niobate waveguide," Opt. Lett. **32,** 1108-1110 (2007). Keywords: quasiphasematch, sum-frequency, waveguides

G. Ghosh, "Thermo-optic coefficients of $LiNbO_3$, $LiIO_3$, and $LiTaO_3$ nonlinear crystals," Opt. Lett. **19,** 1391-1393 (1994). Keywords: n(T)

V. M. Gordienko, V. A. D'yakov, P. M. Mikheev, and V. S. Syrtsov, "Highly efficient nanojoule second harmonic generation of a femtosecond Cr:forsterite laser radiation in a lithium niobate crystal," Quant. Electron. **36,** 1072-1073 (2006). Keywords: efficiency, femtosecond, n_2, sum-frequency

T. Graf, G. McConnell, A. I. Ferguson, E. Bente, D. Burns, and M. D. Dawson, "Synchronously pumped optical parametric oscillation in periodically poled lithium niobate with 1-W average output power," Appl.

Opt. **38,** 3324-3328 (1999). Keywords: efficiency, OPO, phasematch, picosecond, quasiphasematch, Sellmeier, temperature tuning

P. Gross, M. E. Klein, H. Ridderbusch, D.-H. Lee, J.-P. Meyn, R. Wallenstein, and K.-J. Boller, "Wide wavelength tuning of an optical parametric oscillator through electro-optic shaping of the gain spectrum," Opt. Lett. **27,** 1433-1435 (2002). Keywords: cw, OPO, quasiphasematch, temperature tuning

P. Gross, M. E. Klein, T. Walde, K.-J. Boller, M. Auerbach, P. Wessels, and C. Fallnich, "Fiber-laser-pumped continuous-wave singly resonant optical parametric oscillator," Opt. Lett. **27,** 418-420 (2002). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

S. Haidar, Y. K. Hsu, C. S. Chang, S. C. Wang, and H. Ito, "Difference-frequency mixing of output waves from a periodically poled lithium niobate optical parametric oscillator in a GaSe crystal," Opt. Eng. **41,** 1932-1935 (2002). Keywords: bandwidth, efficiency, nanosecond, OPO, quasiphasematch, temperature tuning

S. Haidar and H. Ito, "Injection-seeded optical parametric oscillator for efficient difference frequency generation in mid-IR," Opt. Comm. **171,** 171-176 (1999). Keywords: difference frequency, efficiency, OPO

S. Haidar, Y. Sasaki, E. Niwa, K. Masumoto, and H. Ito, "Electro-optic tuning of a periodically poled $LiNbO_3$ optical parametric oscillator and mixing its output waves to generate mid-IR tunable from 9.4 to 10.5 μm," Opt. Comm. **229,** 325-330 (2004). Keywords: efficiency, quasiphasematch, OPO, nanosecond

S. Haidar, T. Usami, and H. Ito, "Nd:YAG-pumped periodically poled $LiNbO_3$ optical parametric generator seeded with the narrowband output of a 532-nm pumped optical parametric generator," Appl. Opt. **41,** 5656-5659 (2002). Keywords: bandwidth, difference-frequency, efficiency, M^2, nanosecond, OPA, OPG, quasiphasematch, temperature tuning

S. Haidar, T. Usami, J. Shikata, and H. Ito, "Seed-source tuning of a broadband noncollinear optical parametric generator based on periodically poled $LiNbO_3$," Opt. Eng. **42,** 143-147 (2003). Keywords: bandwidth, difference-frequency, efficiency, nanosecond, OPG, quasiphasematch

F. Hanson, P. Poirier, and M. A. Arbore, "Single-frequency mid-infrared optical parametric oscillator source for coherent laser radar," Opt. Lett. **26,** 1794-1796 (2001). Keywords: bandwidth, efficiency, OPO, quasiphasematch

G. Hansson and D. D. Smith "Mid-infrared-wavelength generation in 2-μm pumped periodically poled lithium niobate," Appl. Opt. **37,** 5743-5746 (1998). Keywords: damage, efficiency, OPO, quasiphasematch

G. Hansson and D. D. Smith, "Optical parametric generation in 2-μm-wavelength-pumped periodically poled $LiNbO_3$," Opt. Lett. **25,** 1783-1785 (2000). Keywords: efficiency, M^2, OPG

A. Harada and Y. Nihei, "Bulk periodically poled MgO-$LiNbO_3$ by corona discharge method," Appl. Phys. Lett. **69,** 2629-2631 (1996). Keywords: bandwidth, efficiency, ferroelectric poling

S. Hayashi, H. Minamide, T. Ikari, Y. Ogawa, J. Shikata, H. Ito, C. Otani, and K. Kawase, "Output power enhancement of a palmtop terahertz-wave parametric generator," Appl. Opt. **46,** 117-123 (2007). Keywords: bandwidth, efficiency, nanosecond, OPO, phasematch, THz

J. He, S. H. Tang, Y. Q. Qin, P. Dong, H. Z. Zhang, C. H. Kang, W. X. Sun, and Z. X. Shen, "Two-dimensional structures of ferroelectric domain inversion in $LiNbO_3$ by direct electron beam lithography," J. Appl. Phys. **93,** 9943-9946 (2003). Keywords: ferroelectric poling

A. J. Henderson, P. M. Roper, L. A. Borschowa, and R. D. Mead, "Stable, continuously tunable operation of a diode-pumped resonant optical parametric oscillator," Opt. Lett. **25,** 1264-1266 (2000). Keywords: efficiency, OPO, pump tuning, quasiphasematch

J. Hirohashi, V. Pasiskevicius, S. Wang, and F. Laurell, "Picosecond blue-light-induced infrared absorption in single-domain and periodically poled ferroelectrics," J. Appl. Phys. **101,** 033105 (2007). Keywords: damage, transmission

T. Hori and K. Park, "Continuous-wave millimeter wave generation at 94 GHz in a lithium niobate nonlinear optical waveguide using modulated optical input," Appl. Phys. Lett. **83,** 2133-2135 (2003). Keywords: cw, d_{eff}, difference-frequency, efficiency, THz, waveguides

D. C. Hovde, J. H. Timmermans, G. Scoles, and K. K. Lehmann, "High power injection seeded optical parametric oscillator," Opt. Comm. **86,** 294-300 (1991). Keywords: damage, OPO

C. W. Hoyt, M. Sheik-Bahae, and M. Ebrahimzadeh, "High-power picosecond optical parametric oscillator based on periodically poled lithium niobate," Opt. Lett. **27,** 1543-1545 (2002). Keywords: bandwidth, efficiency, OPO, picosecond, quasiphasematch, temperature tuning

X. P. Hu, G. Zhao, C. Zhang, Z. D. Xie, J. L. He, and S. N. Zhu, "High-power, blue-light generation in a dual-structure, periodically poled, stoichiometric $LiTaO_3$ crystal," Appl. Phys. B (2007). Keywords: efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

L. Huang, D. Hui, D. J. Bamford, S. J. Field, I. Mnushkina, L. E. Myers, and J. V. Kayser, "Periodic poling of magnesium-oxide-doped stoichiometric lithium niobate grown by the top-seeded solution method," Appl. Phys. B **72,** 301-306 (2001). Keywords: crystal growth, damage, efficiency, ferroelectric poling, OPO, quasiphasematch, temperature tuning

Y.C. Huang, A.C. Chiang, Y.Y. Lin, and Y.W. Fang, "Optical parametric generation covering the sodium D_1, D_2 lines from a 532-nm pumped periodically poled lithium niobate (PPLN) crystal with ionic-nonlinearity enhanced parametric gain," IEEE J. Quant. Electron. **38,** 1614-1619 (2002). Keywords: bandwidth, d_{ij}, efficiency, nanosecond, OPG, quasiphasematch, temperature tuning, transmission

K. Imai, K. Kawase, H. Minamide, and H. Ito, "Achromatically injection-seeded terahertz-wave parametric generator," Opt. Lett. **27,** 2173-2175 (2002). Keywords: bandwidth, difference-frequency, efficiency, nanosecond, phasematch, THz

G. Imeshev, M. M. Fejer, A. Galvanauskas, and D. Harter, "Pulse shaping by difference-frequency mixing with quasi-phase-matching gratings," J. Opt. Soc. Am. B **18,** 534-539 (2001). Keywords: difference-frequency, efficiency, femtosecond, group velocity, quasiphasematch

H. Ishizuki, I. Shoji, and T. Taira, "Periodical poling characteristics of congruent $MgO:LiNbO_3$ crystals at elevated temperature," Appl. Phys. Lett. **82,** 4062-4064 (2003). Keywords: ferroelectric poling

H. Ishizuki, I. Shoji, and T. Taira, "High-energy quasi-phase-matched optical parametric oscillation in a 3-mm-thich periodically poled $MgO:LiNbO_3$ device," Opt. Lett. **29,** 2527-2529 (2004). Keywords: efficiency, nanosecond, OPO

H. Ishizuki, T. Taira, "High-energy quasi-phase-matched optical parametric oscillation in a periodically poled $MgO:LiNbO_3$ device with a 5 mm x 5 mm aperture," Opt. Lett. **30,** 2918-2929 (2005). Keywords: efficiency, ferroelectric poling, nanosecond, OPO, quasiphasematch, temperature tuning

H. Ishizuki, T. Taira, S. Kurimura, J. H. Ro, and M. Cha, "Periodic poling in 3-mm-thick $MgO:LiNbO_3$ crystals," Jpn. J. Appl. Phys. **42,** L108-L110 (2003). Keywords: ferroelectric poling

D. H. Jundt, "Temperature-dependent Sellmeier equation for the index of refraction, n_e, in congruent lithium niobate," Opt. Lett. **22,** 1553-1555 (1997). Keywords: Sellmeier, thermal expansion

C. Jung, B.K. Rhee, and D. Kim, "Simple method for determining the crystalline axes of nonlinear uniaxial crystal with second-harmonic generation," Appl. Opt. **39,** 5142-5146 (2000). Keywords: crystal structure, d_{eff}, d_{ij}, sum-frequency

T. Kartaloglu, Z. G. Figen, and O. Aytur, "Simultaneous phase matching of optical parametric oscillation and second-harmonic generation in aperiodically poled lithium niobate," J. Opt. Soc. Am. B **20,** 343-350 (2003). Keywords: efficiency, femtosecond, group velocity, OPO, quasiphasematch, sum-frequency

H. Kintaka and T. Suhara, "Parametric fluorescence generation in $LiNbO_3$ quasi-phase matched waveguide pumped by semiconductor laser," Jap. J. Appl. Phys. **43,** 2545-2546 (2003). Keywords: bandwidth, cw, efficiency, flourescence, OPG, quasiphasematch, waveguides

A. Kitamoto, T. Kondo, I. Shoji, and R. Ito, "Absolute measurement of 2^{nd}-order nonlinear-optical coefficient of $LiNbO_3$ by parametric processes," Opt. Rev. **2,** 280-284 (1995). Keywords: d_{ij}, difference-frequency, fluorescence

M. E. Klein, P. Adel, M. Auerbach, C. Fallnich, P. Gross, and K.-J. Boller, "Microsecond pulsed optical parametric oscillator pumped by a Q-switched fiber laser," Opt. Lett. **28,** 2222-2224 (2003). Keywords: bandwidth, efficiency, OPO, pump tuning, quasiphasematch

M. E. Klein, P. Gross, K.-J. Boller, M. Auerbach, P. Wessels, and C. Fallnich, "Rapidly tunable continuous-wave optical parametric oscillator pumped by a fiber laser," Opt. Lett. **28,** 920-922 (2003). Keywords: bandwidth, cw, efficiency, OPO, pump tuning, quasiphasematch

M. E. Klein, D.-H. Lee, J.-P. Meyn, K.-J. Boller, and R. Wallenstein, "Singly resonant continuous-wave optical parametric oscillator pumped by a diode laser," Opt. Lett. **24,** 1142-1144 (1999). Keywords: d_{eff}, efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

M. E. Klein, A. Robertson, M. A. Tremont, R. Wallenstein, and K.-J. Boller, "Rapid infrared wavelength access with a picosecond PPLN OPO synchronously pumped by a mode-locked diode laser," Appl. Phys. B **73,** 1-10 (2001). Keywords: bandwidth, efficiency, group velocity, OPO, picosecond, pump tuning, quasiphasematch

R. S. Klein, G. E. Kugel, A. Maillard, A. Sifi, and K. Polgar, "Absolute non-linear optical coefficients of $LiNbO_3$ for near stoichiometric crystal compositions," Opt. Mat. **22,** 163-169 (2003). Keywords: cw, d_{eff}, d_{ij}, efficiency, sum-frequency

B. Kohler, U. Bader, A. Nebel, J.-P. Meyn, and R. Wallenstein, "A 9.5-W 82-MHz-repetition-rate picosecond optical parametric generator with cw diode laser injection seeding," Appl. Phys. B **75,** 31-34 (2002). Keywords: bandwidth, efficiency, M^2, OPA, OPG, picosecond, quasiphasematch

S. Kojima, N. Tsumura, H. Kitahara, M. W. Takeda, and S. Nishizawa, "Terahertz time domain spectroscopy of phonon-polaritons in ferroelectric lithium niobate," Jpn. J. Appl. Phys. **41,** 7033-7037 (2002). Keywords: femtosecond, THz, transmission

W. J. Kozlovsky, C. D. Nabors, R. C. Eckardt, and R. L. Byer, "Monolithic MgO:$LiNbO_3$ doubly resonant optical parametric oscillator pumped by a frequency-doubled diode-laser-pumped Nd:YAG laser," Opt. Lett. **14,** 66-68 (1989). Keywords: OPO, temperature tuning

I. A. Kulagin, R. A. Ganeev, R. I. Tugushev, A. I. Ryasnyansky, and T. Usmanov, "Analysis of third-order nonlinear susceptibilities of quadratic nonlinear optical crystals," J. Opt. Soc. B **23,** 75-80 (2006). Keywords: n_2

S. Kurimura, Y. Kato, M. Maruyama, Y. Usui, and H. Nakajima, "Quasi-phase-matched adhered ridge waveguide in $LiNbO_3$," Appl. Phys. Lett. **89,** 191123-1-3. Keywords: difference-frequency, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, waveguides

O. Kuzuco, F. N. C. Wong, D. E. Zelmon, S. M. Hegde, T. D. Roberts, and P. Battle, "Generation of 250 mW narrowband pulsed ultraviolet light by frequency quadrupling of an amplified erbiur-doped fiber laser," Opt. Lett. **32,** 1290-1292 (2007). Keywords: efficiency, picosecond, sum-frequency

D. G. Lancaster, D. Richter, R. F. Curl, F. K. Tittel, L. Goldberg, and J. Koplow, "High-power continuous-wave mid-infrared radiation generated by difference frequency mixing of diode-laser-seeded fiber amplifiers and its application to dual-beam spectroscopy," Opt. Lett. **24,** 1744-1746 (1999). Keywords: difference-frequency, efficiency, quasiphasematch

C. Langrock, E. Diamanti, R. V. Roussev, Y. Yamamoto, M. M. Fejer, and H. Takesue, "Highly efficient single-photon detection at communication wavelengths by use of upconversion in reverse-proton-exchanged periodically poled $LiNbO_3$ waveguides," Opt. Lett. **30,** 1725-1727 (2005). Keywords: cw, efficiency, quasiphasematch, sum-frequency, waveguides

S. Lecomte, L. Krainer, R. Paschotta, M. J. P. Dymott, K. J. Weingarten, and U. Keller, "Optical parametric oscillator with a 10-GHz repetition rate and 100-mW average output power in the spectral region near 1.5 μm," Opt. Lett. **27,** 1714-1716 (2002). Keywords: efficiency, OPO, picosecond, quasiphasematch

S. Lecomte, R. Paschotta, S. Pawlik, B. Schmidt, K. Furusawa, A. Malinowski, D. J. Richardson, and U. Keller, "Synchronously pumped optical parametric oscillator with a repetition rate of 81.8 GHz," IEEE J. Quant. Electron. **17,** 483-485 (2005). Keywords: efficiency, OPO, picosecond, quasiphasematch

C. J. Lee, G. W. Baxter, J. C. Diettrich, I. T. McKinnie, D. M. Warrington, P. G. R. Smith, G. W. Ross, and D. C. Hanna, "Periodically poled lithium niobate optical parametric oscillator pump-tuned by a single-axial-mode Ti:sapphire laser," Opt. Eng. **41,** 848-851 (2002). Keywords: efficiency, M^2, nanosecond, OPO, pump tuning, quasiphasematch

Y. L. Lee, Y.-C. Noh, C. Jung, T. J. Yu, D.-K. Ko, and J. Lee, "Broadening of the second-harmonic phase-matching bandwidth in a temperature-gradient-controlled periodically poled $Ti:LiNbO_3$ channel waveguide," Opt. Express **11,** 2813-2819 (2003). Keywords: bandwidth, cw, efficiency, quasiphasematch, sum-frequency, temperature tuning, waveguide

Y. L. Lee, Y.-C. Noh, C. Jung, T. J. Yu, B.-A. Yu, J. Lee, D.-K. Ko, and K. Oh, "Reshaping of a second-harmonic curve in periodically poled $Ti:LiNbO_3$ channel waveguide by a local-temperature-control technique," Appl. Phys. Lett. **86,** 1-3 (2005). Keywords: quasiphasematch, temperature tuning, waveguides

Y.-S. Lee, N. Amer, and W. C. Hurlbut, "Terahertz pulse shaping via optical rectification in poled lithium niobate," Appl. Phys. Lett. **82,** 170-172 (2003). Keywords: femtosecond, group velocity, optical rectification, quasiphasematch, THz

Y. W. Lee, F. C. Fan, Y. C. Huang, B. Y. Gu, B. Z. Dong, and M. H. Chou, "Nonlinear multiwavelength conversion based on aperiodic optical superlattice in lithium niobate," Opt. Lett. **27,** 2191-2193 (2002). Keywords: difference-frequency, quasiphasematch, sum-frequency

L. Lefort, K. Puech, S. D. Butterworth, G. W. Ross, P. G. R. Smith, D. C. Hanna, and D. H. Jundt, "Efficient, low-threshold synchronously-pumped parametric oscillation in periodically-poled lithium niobate over the 1.3 μm to 5.3 μm range," Opt. Comm. **152,** 55-58 (1998). Keywords: efficiency, OPO, phasematch, picosecond, quasiphasematch

L. Lefort, K. Puech, S. D. Butterworth, Y. P. Svirko, and D. C. Hanna, "Generation of femtosecond pulses from order-of-magnitude pulse compression in a synchronously pumped optical parametric oscillator based on periodically poled lithium niobate," Opt. Lett. **24,** 28-30 (1999). Keywords: efficiency, femtosecond, group velocity, OPO, picosecond

L. Lefort, K. Puech, G. W. Ross, Y. P. Svirko, and D. C. Hanna, "Optical parametric oscillation out to 6.3 μm in periodically poled lithium niobate under strong idler absorption," Appl. Phys. Lett. **73,** 1610-1612 (1998). Keywords: efficiency, OPO, quasiphasematch, picosecond

J. A. L'huillier, G. Torosyan, M. Theuer, Y. Avetisyan, and R. Beigang, "Generation of THz radiation using bulk, periodically and aperiodically poled lithium niobate – part 1: theory," Appl. Phys. (2006). Keywords: bandwidth, femtosecond, THz

H. P. Li, C. H. Kam, Y. L. Lam, and W. Ji, "Femtosecond Z-scan measurements of nonlinear refraction in nonlinear optical crystals," Opt. Mat. **15,** 237-242 (2001). Keywords: femtosecond, n_2, two-photon absorption

J. Li, X. Chen, B. Wu, B. Li, and S. Pan, "Laser-induced dark traces in doped $LiNbO_3$ crystals," Appl. Phys. Lett. **67,** 3384-3386 (1995). Keywords: damage

J. T. Lin, "Recent advances of nonlinear crystals for frequency converters," SPIE **1104,** 23-32 (1989). Keywords: phasematch, d_{eff}, walkoff, temperature bandwidth, acceptance angle

S. Lin, Y. Tanaka, S. Takeuchi, and T. Suzuki, "Improved dispersion equation for MgO:$LiNbO_3$ crystal in the infrared spectral range derived from sum and difference frequency mixing," IEEE J. Quant. Electron. **32,** 124-126 (1996). Keywords: Sellmeier, phasematch, transmission, difference frequency, sum frequency

S. Lin and T. Suzuki, "Tunable picosecond mid-infrared pulses generated by optical parametric generation/amplification in MgO:$LiNbO_3$," Opt. Lett. **21,** 579 (1996). Keywords: Sellmeier, acceptance bandwidth, difference frequency, efficiency, group velocity, phasematch

X. C. Lin, Y. Zhang, Y. P. Kong, J. Zhang, A. Y. Yao, W. Hou, D. F. Cui, R. N. Li, Z. Y. Xu, and J. Li, "Low-threshold mid-infrared optical parametric oscillator using periodically poled $LiNbO_3$," Chin. Phys. Lett. **21,** 98-100 (2004). Keywords: efficiency, nanosecond, OPO, quasiphasematch, temperature tuning

I. D. Lindsay, B. Adhimoolam, P. Gross, M. E. Klein, and K.-J. Boller, "110GHz rapid, continuous tuning from an optical parametric oscillator pumped by a fiber-amplified DBR diode laser," Opt. Exp. **13,** 1234-1239 (2005). Keywords: cw, efficiency, OPO, pump tuning, quasiphasematch

I. D. Lindsay, C. Petridis, M. H. Dunn, and M. Ebrahimzadeh, "Continuous-wave pump-enhanced singly resonant optical parametric oscillator pumped by an extended-cavity diode laser," Appl. Phys. Lett. **78,** 871-873 (2001). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

I. D. Lindsay, G. A. Turnbull, M. H. Dunn, and M. Ebrahimzadeh, "Doubly resonant continuous-wave optical parametric oscillator pumped by a single-mode diode laser," Opt. Lett. **23,** 1889-1891 (1998). Keywords: efficiency, OPO, phasematch, pump tuning, quasiphasematch, temperature tuning

P. Loza-Alvarez, C. T. A. Brown, D. T. Reid, W. Sibbett, and M. Missey, "High-repetition-rate ultrashort-pulse optical parametric oscillator continuously tunable from 2.8 to 6.8 μm," Opt. Lett. **24,** 1523-1525 (1999). Keywords: efficiency, femtosecond, OPO, phasematch, quasiphasematch

Y-Q Lu, Y-L Lu, C-C Xue, J-J Zheng, X-F Chen, N-B Ming, B-H Feng, and X-L Zhang, "Femtosecond violet light generation by quasi-phase-matched frequency doubling in optical superlattice $LiNbO_3$," Appl. Phys. Lett. **69,** 3155-3157 (1996). Keywords: bandwidth, efficiency, femtosecond, phasematch

G. H. Ma, Q. B. Zhu, G. Kh. Kitaeva, and I. I. Naumova, "Narrow-band terahertz wave generation and detection in one periodically poled lithium niobate crystal," Opt. Comm. **273,** 549-553 (2007). Keywords: femtosecond, THz

P. Maddaloni, G. Gagliardi, P. Malara, and P. De Natale, "A 3.5-mW continuous-wave difference-frequency source around 3 μm for sub-Doppler molecular spectroscopy," Appl. Phys. B **80,** 141-145 (2005). Keywords: cw, difference-frequency, efficiency, quasiphasematch

J. H. Marquardt, R. W. Mackes, and D. D. Smith, "Single-mode, tunable output from a midwave-infrared-seeded optical parametric oscillator system," Appl. Opt. **41,** 1163-1168 (2002). Keywords: bandwidth, efficiency, OPO, quasiphasematch

G. McConnell and A. I. Ferguson, "Simultaneous stimulated Raman scattering and second harmonic generation in periodically poled lithium niobate," Opt. Exp. **13,** 2099-2104 (2005). Keywords: Raman, sum-frequency

C. McGowan, D. T. Reid, Z. E. Penman, M. Ebrahimzadeh, W. Sibbett, and D. H. Jundt, "Femtosecond optical parametric oscillator based on periodically poled lithium niobate," J. Opt. Soc. Am. B **15,** 694-701 (1998). Keywords: bandwidth, efficiency, femtosecond, OPO, phasematch, quasiphasematch, temperature tuning

K. J. McEwan and J. A. C. Terry, "A tandem periodically-poled lithium niobate (PPLN) optical parametric oscillator (OPO)," Opt. Comm. **182,** 423-432 (2000). Keywords: efficiency, OPO, picosecond, quasiphasematch, temperature tuning

X. Meng, J.-C. Diels, D. Kuehlke, R. Batchko, and R. Byer, "Bidirectional, synchronously pumped, ring optical parametric oscillator," Opt. Lett. **26,** 265-267 (2001). Keywords: efficiency, femtosecond, n_2, OPO, quasiphasematch

G. D. Miller, R. G. Batchko, W. M. Tulloch, D. R. Weise, M. M. Fejer, and R. L. Byer, "42%-efficient single-pass cw second-harmonic generation in periodically poled lithium niobate," Opt. Lett. **22,** 1834-1836 (1997). Keywords: damage, d_{eff}, d_{ij}, efficiency, ferroelectric poling, phasematch, quasiphasematch, sum-frequency, temperature-bandwidth

M. J. T. Milton, T. D. Gardiner, G. Chourdakis, and P. T. Woods, "Injection seeding of an infrared optical parametric oscillator with a tunable diode laser," Opt. Lett. **19,** 281-283 (1994). Keywords: OPO, efficiency

M. J. T. Milton, T. J. McIlveen, D. C. Hanna, and P. T. Woods, "High-efficiency infrared generation by difference-frequency mixing using tangential phase matching," Opt. Comm. **87,** 273-277 (1992). Keywords: difference-frequency, phasematch, efficiency

C.-K. Min and T. Joo, "Near-infrared cavity-dumped femtosecond optical parametric oscillator," Opt. Lett. **30,** 1855-1857 (2005). Keywords: bandwidth, efficiency, femtosecond, OPO, quasiphasematch

L. Ming, C. B. E. Gawith, K. Gallo, M. V. O'Connor, G. D. Emmerson, and P. G. R. Smith, "High conversion efficiency single-pass second harmonic generation in a zinc-diffused periodically poled lithium niobate waveguide," Opt. Exp. **13,** 4862-4868 (2005). Keywords: cw, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth, waveguides

M. J. Missey, V. Dominic, P. E. Powers, and K. L. Schepler, "Aperture scaling effects with monolithic periodically poled lithium niobate optical parametric oscillators and generators," Opt. Lett. **25,** 248-250 (2000). Keywords: bandwidth, efficiency, M^2, OPG, OPO, quasiphasematch

M. J. Missey, V. Dominic, P. E. Powers, and K. L. Schepler, "Periodically poled lithium niobate monolithic nanosecond optical parametric oscillators and generators," Opt. Lett. **24,** 1227-1229 (1999). Keywords: bandwidth, efficiency, OPG, OPO, phasematch, quasiphasematch

K. Mizuuchi, A. Morikawa, T. Sugita, and K. Yamamoto, "Efficient second-harmonic generation of 340-nm light in a 1.4-μm periodically poled bulk MgO:$LiNbO_3$," Jpn. J. Appl. Phys. **42,** L90-L91 (2003). Keywords: cw, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

K. Mizuuchi, A. Morikawa, T. Sugita, and K. Yamamoto, "Generation of 360-nm ultraviolet light in first-order periodically poled bulk MgO:$LiNbO_3$," Opt. Lett. **28,** 935-937 (2003). Keywords: cw, d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

K. Mizuuchi, A. Morikawa, T. Sugita, K. Yamamoto, N. Pavel, I. Shoji, and T. Taira, "High-power continuous wave green generation by single-pass frequency doubling of a Nd:$GdVO_4$ laser in a periodically poled MgO:$LiNbO_3$ operating at room temperature," Jpn. J. Appl. Phys. **42,** L1296-L1298 (2003). Keywords: conductivity, cw, d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

K. Mizuuchi, A. Morikawa, T. Sugita, K. Yamamoto, N. Pavel, and T. Taira, "Continuous-wave ultraviolet generation at 354 nm in a periodically poled MgO:$LiNbO_3$ by frequency tripling of a diode end-pumped Nd:$GdVO_4$ microlaser," Appl. Phys. Lett. **85,** 3959-3961 (2004). Keywords: cw, efficiency, quasiphasematch, sum-frequency

K. Mizuuchi, A. Morikawa, T. Sugita, K. Yamamoto, N. Pavel, and T. Taira, "Continuous-wave deep blue generation in a periodically poled MgO:$LiNbO_3$ crystal by single-pass frequency doubling of a 912-nm Nd:$GdVO_4$ laser," Jap. J. Appl. Phys. **43,** L1293-L1295 (2004). Keywords: cw, efficiency, ferroelectric poling, M^2, quasiphasematch, sum-frequency

K. Mizuuchi, T. Sugita, K. Yamamoto, T. Kawaguchi, T. Yoshino, and M. Imaeda, "Efficient 340-nm light generation by a ridge-type waveguide in a first-order periodically poled MgO:$LiNbO_3$," Opt. Lett. **28,** 1344-1346 (2003). Keywords: cw, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, waveguides

K. Mizuuchi and K. Yamamoto, "Second-harmonic generation in domain-inverted grating induced by focused ion beam," Opt. Review **Sample Issue,** 36-38 (1994). Keywords: ferroelectric poling

R. A. Morgan, K. I. Kang, C. C. Hsu, C. L. Koliopoulos, and N. Peyghambarian, "Measurement of the thermal diffusivity of nonlinear anisotropic crystals using optical interferometry," Appl. Opt. **26,** 5266-5271 (1987). Keywords:

A. Morikawa, K. Mizuuchi, T. Sugita, and K. Yamamoto, "Harmonic blue light generation in periodically poled bulk near-stoichiometric MgO:$LiNbO_3$," Electron. Lett. **41,** 20057893 (2005). Keywords: crystal growth, cw, d_{ij}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

X. Mu and Y. J. Ding, "Investigation of one of the most fundamental limits to parametric processes: two-photon absorption," Opt. Comm. **242,** 305-312 (2004). Keywords: two-photon absorption

F. Muller, A. Popp, F. Kuhnemann, and S. Schiller, "Transportable, highly sensitive photoacoustic spectrometer based on a continuous-wave dual-cavity optical parametric oscillator," Opt. Express **11,** 2820-2825 (2003). Keywords: cw, efficiency, OPO, quasiphasematch

F. Muller, G. von Basum, A. Popp, D. Halmer, P. Hering, M. Murtz, F. Kuhnemann, and S. Schiller, "Long-term frequency stability and linewidth properties of continuous-wave pump-resonant optical parametric oscillators," Appl. Phys. B **80,** 307-313 (2005). Keywords: cw, efficiency, OPO, quasiphasematch

L. E. Myers, R. C. Eckardt, M. M. Fejer, R. L. Byer, and W. R. Bosenberg, "Multigrating quasi-phase-matched optical parametric oscillator in periodically poled $LiNbO_3$," Opt. Lett. **21,** 591 (1996). Keywords: ferroelectric poling, OPO, phasematch, transmission

C. D. Nabors, R. C. Eckardt, W. J. Kozlovsky, and R. L. Byer, "Efficient, single-axial-mode operation of a monolithic $MgO:LiNbO_3$ optical parametric oscillator," Opt. Lett. **14,** 1134-1136 (1989). Keywords: OPO, efficiency, temperature tuning

M. Nakamura, S. Takekawa, Y. Liu, and K. Kitamura, "Crystal growth of Sc-doped near-stoichiometric $LiNbO_3$ and its characteristics," J. Cryst. Growth **281,** 549-555 (2005). Keywords: crystal growth, damage, ferroelectric poling, transmission

J. Ng, A. H. Kung, A. Miklos, and P. Hess, "Sensitive wavelength-modulated photoacoustic spectroscopy with a pulsed optical parametric oscillator," Opt. Lett. **29,** 1206-1208 (2004). Keywords: bandwidth, efficiency, nanosecond, OPO, quasiphasematch

P. Ni, B. Ma, X. Wang, B. Cheng, and D. Zhang, "Second-harmonic generation in two-dimensional periodically poled lithium niobate using second-order quasiphase matching," Appl. Phys. Lett. **82,** 4230-4232 (2003). Keywords: acceptance angle, efficiency, ferroelectric poling, picosecond, quasiphasematch, sum-frequency, temperature-bandwidth

K. Niwa, Y. Furukawa, S. Takekawa, K. Kitamura, "Growth and characterization of MgO doped near stoichiometric $LiNbO_3$ crystals as a new nonlinear optical material," J. Cryst. Growth **208,** 493-500 (2000). Keywords: crystal growth, crystal structure, damage, transmission

N. O'Brien, M. Missey, P. Powers, V. Dominic, and K. L. Schepler, "Electro-optic spectral tuning in a continuous-wave, asymmetric-duty-cycle, periodically poled $LiNbO_3$ optical parametric oscillator," Opt. Lett. **24,** 1750-1752 (1999). Keywords: OPO, quasiphasematch

M. V. O'Connor, M. A. Watson, D. P. Shepherd, D. C. Hanna, J. H. V. Price, A. Malinowski, J. Nilsson, N. G. R. Broderick, D. J. Richardson, and L. Lefort, "Synchronously pumped optical parametric oscillator driven by a femtosecond mode-locked fiber laser," Opt. Lett. **27,** 1052-1054 (2002). Keywords: efficiency, femtosecond, OPO, quasiphasematch, temperature tuning

A. V. Okishev and J. D. Zuegel, "Intracavity-pumped Raman laser action in a mid-IR, continuous-wave (cw) MgO:PPLN optical parametric oscillator," Opt. Exp. **14,** 12169-12173 (2006). Keywords: cw, efficiency, OPO, quasiphasematch

M. J. Orozco-Arellanes and R. S. Cudney, "Indirectly-seeded optical parametric generation in periodically poled lithium niobate," Opt. Exp. **11,** 20-26 (2003). Keywords: difference-frequency, efficiency, nanosecond, OPG, quasiphasematch

K. R. Parameswaran, J. R. Kurz, R. V. Roussev, and M. M. Fejer, "Observation of 99% pump depletion in a single-pass second-harmonic generation in a periodically poled lithium niobate waveguide," Opt. Lett. **27,** 43-45 (2002). Keywords: bandwidth, efficiency, quasiphasematch, sum-frequency, waveguides

K. R. Parameswaran, R. K. Route, J. R. Kurz, R. V. Roussev, M. M. Fejer, and M. Fujimura, "Highly efficient second-harmonic generation in buried waveguides formed by annealed and reverse proton exchange in periodically poled lithium niobate," Opt. Lett. **27,** 179-181 (2002). Keywords: cw, efficiency, quasiphasematch, sum-frequency, waveguides

N. Pavel, I. Shoji, T. Taira, K. Mizuuchi, A. Morikawa, T. Sugita, and K. Yamamoto, "Room-temperature, continuous-wave 1-W green power by single-pass frequency doubling in a bulk periodically poled

MgO:$LiNbO_3$ crystal," Opt. Lett. **29,** 830-832 (2004). Keywords: bandwidth, cw, d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency, temperature-bandwidth

S. Pearl, Y. Ehrlich, S. Fastig, and S. Rosenwaks, "Nearly diffraction-limited signal generated by a lower beam-quality pump in an optical parametric oscillator," Appl. Opt. **42,** 1048-1051 (2003). Keywords: efficiency, M^2, nanosecond, OPO

L.-H. Peng, C.-C. Hsu, and A. Kung, "Broad multiwavelength second-harmonic generation from two-dimensional $\chi^{(2)}$ nonlinear photonic crystals of tetragonal lattice structure," IEEE J. Quant. Electron. **10,** 1142-1148 (2004). Keywords: ferroelectric poling, quasiphasematch, sum-frequency

L.-H. Peng, Y.-C. Zhang, and Y.-C. Lin, "Zinc oxide doping effects in polarization switching of lithium niobate," Appl. Phys. Lett. **78,** 4-6 (2001). Keywords: ferroelectric poling

Z. E. Penman, P. Loza-Alvarez, D. T. Reid, M. Ebrahimzadeh, W. Sibbett, and D. H. Jundt, "All-solid-state mid-infrared femtosecond optical parametric oscillator based on periodically-poled lithium niobate," Opt. Comm. **146,** 147-150 (1998). Keywords: bandwidth, efficiency, femtosecond, OPO, quasiphasematch

O. Pfister, J. S. Wells, L. Hollberg, L. Zink, D. A. Van Baak, M. D. Levenson, and W. R. Bosenberg, "Continuous-wave frequency tripling and quadrupling by simultaneous three-wave mixings in periodically poled crystals: application to a two-step 1.19-10.71-μm frequency bridge," Opt. Lett. **22,** 1211-1213 (1997). Keywords: efficiency, quasiphasematch, sum-frequency

P. J. Phillips, S. Das, and M. Ebrahimzadeh, "High-repetition-rate, all-solid-state, Ti:Sapphire-pumped optical parametric oscillator for the mid-infrared," Appl. Phys. Lett. **77,** 469-471 (2000). Keywords: bandwidth, efficiency, femtosecond, OPO, phasematch, picosecond, pump tuning, quasiphasematch

A. Piskarskas, A. Stabinis, A. Umbrasas, and A. Yankauskas, "Parametric chirp and 20-fold compression of pulses from a quasi-cw picosecond optical parametric oscillator," Sov. J. Quant. Electron. **15,** 1539-1541 (1985). Keywords: OPO, chirp

K. Polgar, A. Peter, and I. Foldvari, "Crystal growth and stoichiometry of $LiNbO_3$ prepared by the flux method," Opt. Mat. **19,** 7-11 (2002). Keywords: crystal growth, ferroelectric poling

P. E. Powers, T. J. Kulp, and S. E. Bisson, "Continuous tuning of a continuous-wave periodically poled lithium niobate optical parametric oscillator by use of a fan-out grating design," Opt. Lett. **23,** 159-161 (1998). Keywords: efficiency, OPO, quasiphasematch

V. Pruneri, S. D. Butterworth, and D. C. Hanna, "Low-threshold picosecond optical parametric oscillation in quasi-phase-matched lithium niobate," Appl. Phys. Lett. **69,** 1029 (1996). Keywords: efficiency, OPO, phasematch, picosecond, temperature tuning

Pruneri, S. D. Butterworth, and D. C. Hanna, "Highly efficient green-light generation by quasi-phase-matched frequency doubling of picosecond pulses from an amplified mode-locked Nd:YLF laser," Opt. Lett. **21,** 390 (1996). Keywords: damage, d_{eff}, damage, efficiency, ferroelectric poling, phasematch, picosecond, sum-frequency, temperature-bandwidth

V. Pruneri, J. Webjorn, P. St. J. Russell, and D. C. Hanna, "532 nm pumped optical parametric oscillator in bulk poled lithium niobate," Appl. Phys. Lett. **67,** 2126 (1995). Keywords: phasematch, efficiency, temperature tuning

A. M. Radojevic, M. Levy, R. M. Osgood, D. H. Jundt, A. Kumar, and H. Bakhru, "Second-order optical nonlinearity of 10-μm-thick periodically poled $LiNbO_3$ films," Opt. Lett. **25,** 1034-1036 (2000). Keywords: d_{eff}, efficiency, femtosecond, quasiphasematch, sum-frequency, waveguides

J. Raffy, T. Debuisschert, and J.-P. Pocholle, "Widely tunable optical parametric oscillator with electrical wavelength control," Opt. Lett. **22,** 1589-1591 (1997). Keywords: bandwidth, efficiency, OPO, phasematch

J. Raffy, T. Debuisschert, J.-P. Pocholle, and M. Papuchon, "Tunable IR laser source with optical parametric oscillators in series," Appl. Opt. **33,** 985-987. Keywords: OPO, efficiency

M. Rahm, U. Bader, G. Anstett, J.-P. Meyn, R. Wallenstein, and A. Borsutzky, "Pulse-to-pulse wavelength tuning of an injection seeded nanosecond optical parametric generator with 10 kHz repetition rate," Appl. Phys. B **75,** 47-51 (2002). Keywords: bandwidth, efficiency, nanosecond, OPA, OPG, quasiphasematch

M. Reich, F. Korte, C. Fallnich, H. Welling, and A. Tunnermann, "Electrode geometries for periodic poling of ferroelectric materials," Opt. Lett. **23,** 1817-1819 (1998). Keywords: ferroelectric poling, quasiphasematch

T. A. Reichardt, R. P. Bambha, T. J. Kulp, and R. L. Schmitt, "Frequency-locked, injection-seeded, pulsed narrowband optical parametric generator," Appl. Opt. **42,** 3564-3569 (2003). Keywords: bandwidth, efficiency, M^2, nanosecond, OPG, quasiphasematch

D. Richter, P. Weibring, A. Fried, O. Tadanaga, Y. Nishida, M. Asobe, and H. Suzuki, "High-power, tunable difference frequency generation source for absorption spectroscopy based on a ridge waveguide periodically poled lithium niobate crystal," Opt. Exp. **15,** 564-571 (2007). Keywords: cw, difference-frequency, efficiency, M^2, quasiphasematch, temperature-bandwidth, waveguides

H. Ridderbusch, M. E. Klein, P. Gross, D.-H. Lee, J.-P. Meyn, R. Wallenstein, and K.-J. Boller, "Electro-optic modification of second-harmonic phase-matching spectra in segmented periodically poled $LiNbO_3$," J. Opt. Soc. Am. B **19,** 280-288 (2002). Keywords: cw, efficiency, quasiphasematch, sum-frequency

A. Robertson, M. E. Klein, M. A. Tremont, K.-J. Boller, and R. Wallenstein, "2.5-GHz repetition-rate singly resonant optical parametric oscillator synchronously pumped by a mode-locked diode oscillator amplifier system," Opt. Lett. **25,** 657-659 (2000). Keywords: efficiency, OPO, picosecond, quasiphasematch, temperature tuning

M. Robles-Agudo, R. S. Cudney, and L. A. Rios, "RGB source based on simultaneous quasi-phase-matched second and third harmonic generation in periodically poled lithium niobate," Opt. Exp. **14,** 10663-10668 (2006). Keywords: efficiency, OPG, quasiphasematch, sum-frequency, temperature tuning

G. W. Ross, M. Pollnau, P. G. R. Smith, W. A. Clarkson, P. E. Britton, and D. C. Hanna, "Generation of high-power blue light in periodically poled $LiNbO_3$," Opt. Lett. **23,** 171-173 (1998). Keywords: d_{eff}, efficiency, ferroelectric poling, M^2, quasiphasematch, sum-frequency, temperature bandwidth

F. Rotermund, V. Petrov, and F. Noack, "Femtosecond noncollinear parametric amplification in the mid-infrared," Opt. Comm. **169,** 183-188 (1999). Keywords: difference-frequency, efficiency, femtosecond, group velocity, phasematch, pump tuning

F. Rotermund, V. Petrov, and F. Noack, "Laser-diode-seeded single and double stage femtosecond optical parametric amplification in the mid-infrared," Opt. and Quant. Electron. **32,** 1057-1067 (2000). Keywords: efficiency, femtosecond, group velocity, OPG

R. V. Roussev, C. Langrock, J. R. Kurz, and M. M. Fejer, "Periodically poled lithium niobate waveguide sum-frequency generator for efficient single-photon detection at communication wavelengths," Opt. Lett. **29,** 1518-1520 (2004). Keywords: cw, efficiency, quasiphasematch, sum-frequency, waveguides

K. Sakai, Y. Koyata, and Y. Hirano, "Planar-waveguide quasi-phase-matched second-harmonic-generation device in Y-cut MgO-doped $LiNbO_3$," Opt. Lett. **31,** 3134-3136 (2006). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth, two-photon absorption, waveguides

Y. Sasaki, H. Yokoyama, and H. Ito, "Surface-emitted continuous-wave terahertz radiation using periodically poled lithium niobate," Electr. Lett. **41,** 53-54 (2005). Keywords: cw, difference-frequency, quasiphasematch, THz

Y. Sasaki, A. Yuri, K. Kawase, and H. Ito, "Terahertz-wave surface-emitted difference frequency generation in slant-stripe-type periodically poled $LiNbO_3$ crystal," Appl. Phys. Lett. **81,** 3323-3325 (2002). Keywords: difference-frequency, efficiency, nanosecond, quasiphasematch, THz, transmission

A. Sato, K. Imai, K. Kawase, H, Minimide, S. Wada, and H. Ito, "Narrow-linewidth operation of a compact THz-wave parametric generator system," Opt. Comm. **207,** 353-359 (2002). Keywords: bandwidth, efficiency, OPG, THz

M. Sato, T. Hatanaka, S. Izumi, T. Taniuchi, and H. Ito, "Generation of 6.6 μm optical parametric oscillation with periodically poled $LiNbO_3$," Appl. Opt. **38,** 2560-2563 (1999). Keywords: efficiency, OPO, quasiphasematch, temperature tuning, transmission

U. Schlarb, M. Wohlecke, B. Gather, A. Reichert, K. Betzler, T. Volk, and N. Rubinina, "Refractive indices of Zn-doped lithium niobate," Optical Materials **4,** 791-795 (1995). Keywords: Sellmeier

P. Schlup, G. W. Baxter, and I. T. McKinnie, "Single-mode near- and mid-infrared periodically poled lithium niobate optical parametric oscillator," Opt. Comm. **176,** 267-271 (2000). Keywords: bandwidth, efficiency, M^2, OPO, quasiphasematch

A. M. Schober, G. Imeshev, and M. M. Fejer, "Tunable-chirp pulse compression in quasi-phase-matched second-harmonic generation," Opt. Lett. **27,** 1129-1131 (2002). Keywords: chirp, efficiency, femtosecond, group velocity, picosecond, quasiphasematch, sum-frequency

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

V. Ya. Shur, E. L. Rumyantsev, E. V. Nikolaeva, E. I. Shishkin, D. V. Fursov, R. G. Batchko, L. A. Eyres, M. M. Fejer, and R. L. Byer, "Nanoscale backswitched domain patterning in lithium niobate," Appl. Phys. Lett. **76,** 143-145 (2000). Keywords: ferroelectric poling

A. G. Stepanov, J. Hebling, and J. Kuhl, "Efficient generation of subpicosecond terahertz radiation by phase-matched optical rectification using ultrashort laser pulses with tilted pulse fronts," Appl. Phys. Lett. **83,** 3000-3002 (2003). Keywords: bandwidth, efficiency, femtosecond, group velocity, optical rectification, THz, transmission

D. J. M. Stothard, M. Ebrahimzadeh, and M. H. Dunn, "Low-pump-threshold continuous-wave singly resonant optical parametric oscillator," Opt. Lett. **23,** 1895-1897 (1998). Keywords: efficiency, OPO, quasiphasematch, temperature tuning

D. J. M. Stothard, P.-Y. Fortin, A. Carleton, M. Ebrahimzadeh, and M. H. Dunn, "Comparison of continuous-wave optical parametric oscillators based on periodically poled $LiNbO_3$ and periodically poled $RbTiOAsO_4$ pmped internal to a high-power $Nd:YVO_4$ laser," J. Opt. Soc. Am. B **20,** 2102-2108 (2003). Keywords: cw, efficiency, OPO, quasiphasematch

D. J. M. Stothard, I. D. Lindsay, and M. H. Dunn, "Continuous-wave pump-enhanced optical parametric oscillator with ring resonator for wide and continuous tuning of single-frequency radiation," Opt. Exp. **12,** 502-511 (2004). Keywords: cw, efficiency, OPO, quasiphasematch

U. Strossner, J.-P. Meyn, R. Wallenstein, P. Urenski, A. Arie, G. Rosenman, J. Mlynek, S. Schiller, and A. Peters, "Single-frequency continuous-wave optical parametric oscillator system with an ultrawide tuning range of 550 to 2830 nm," J. Opt. Soc. Am. B **19,** 1419-1424 (2002). Keywords: bandwidth, damage, efficiency, OPO, quasiphasematch, temperature tuning

J. Sun, W. Liu, J. Tian, J. R. Kurz, and M. M. Fejer, "Multichannel waveguide conversion exploiting cascaded second-order nonlinearity in $LiNbO_3$ waveguides," IEEE Phot. Tech. Lett. **15,** 1743-1745 (2003). Keywords: bandwidth, difference-frequency, efficiency, quasiphasematch, sum-frequency, waveguides

Y.-M. Sun, Z.-L. Mao, B.-H. Hou, G.-Q. Liu, and L. Wang, "Giant birefringence of lithium niobate crystals in the terahertz region," Chin. Phys. Lett. **24,** 414-417 (2007). Keywords: femtosecond, Sellmeier, THz, transmission

J. A. C. Terry, G. Tsiminis, M. H. Dunn, and C. F. Rae, "Eye-safe broadband output at 1.55 μm through the use of a fan-out grating structure in MgO:PPLN," J. Opt. A: Pure Appl. Opt. **9,** 229-234 (2007). Keywords: bandwidth, efficiency, M^2, nanosecond, OPO

K. A. Tillman, R. R. J. Maier, D. T. Reid, and E. D. McNaghten, "Mid-infrared absorption spectroscopy across a 14.4 THz spectral range using a broadband femtosecond optical parametric oscillator," Appl. Phys. Lett. **85,** 3366-3368 (2004). Keywords: efficiency, femtosecond, OPO, quasiphasematch

K. A. Tillman, D. T. Reid, D. Artigas, and T. Y. Jiang, "Idler-resonant femtosecond tandem optical parametric oscillator tuning from 2.1 μm to 4.2 μm," J. Opt. Soc. Am. B **21,** 1551-1558 (2004). Keywords: efficiency, femtosecond, OPO, quasiphasematch

X. Tong, M. Zhang, A. Yariv, A. Agranat, R. Hofmeister, and V. Leyva, "Near infrared absorption and dark conductivity of $K_{1-y}Li_yTa_{1-x}Nb_xO_3$ crystal," Appl. Phys. Lett. **69,** 479 (1996). Keywords: conductivity, transmission

M. Tsunekane, S. Kimura, M. Kimura, N. Taguchi, and H. Inaba, "Continuous-wave, broadband tuning from 788 to 1640 nm by a doubly resonant, $MgO:LiNbO_3$ optical parametric oscillator," Appl. Phys. Lett. **72,** 3414-3416 (1998). Keywords: OPO, temperature tuning

G. A. Turnbull, D. McGloin, I. D. Lindsay, M. Ebrahimzadeh, and M. H. Dunn, "Extended mode-hop-free tuning by use of a dual-cavity, pump-enhanced optical parametric oscillator," Opt. Lett. **25,** 341-343 (2000). Keywords: efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

T. Umeki, M. Asobe, Y. Nishida, O. Tadanaga, K. Magari, T. Yanagawa, and H. Suzuki, "Widely tunable 3.4 μm band difference frequency generation using apodized $\chi^{(2)}$ grating," Opt. Lett. **32,** 1129-1131 (2007). Keywords: bandwidth, difference-frequency, quasiphasematch

M. Vaidyanathan, R. C. Eckardt, V. Dominic, L. E. Myers, and T. P. Grayson, "Cascaded optical parametric oscillations," Opt. Express **1,** 49-53 (1997). Keywords: efficiency, OPO, quasiphasematch

A. P. VanDevender and P. G. Kwiat, "High-speed transparent switch via frequency upconversion," Opt. Exp. **15,** 4677-4683 (2007). Keywords: efficiency, nanosecond, sum-frequency

M. M. J. W. van Herpen, S. E. Bisson, and F. J. M. Harren, "Continuous-wave operation of a single-frequency optical parametric oscillator at 4-5 μm based on periodically poled $LiNbO_3$," Opt. Lett. **28,** 2497-2499 (2003). Keywords: cw, efficiency, OPO, quasiphasematch, transmission

M. M. J. W. van Herpen, S. E. Bisson, A. K. Y. Ngai, and F. J. M. Harren, "Combined wide pump tuning and high power of a continuous-wave, singly resonant optical parametric oscillator," Appl. Phys. B **78,** 281-286 (2004). Keywords: cw, efficiency, OPO, pump tuning, quasiphasematch

M. van Herpen, S. te Linter Hekkert, S. E. Bisson, and F. J. M. Harren, "Wide single-mode tuning of a 3.0-3.8-μm, 700-mW, continuous-wave Nd:YAG-pumped optical parametric oscillator based on periodically poled lithium niobate," Opt. Lett. **27,** 640-642 (2002). Keywords: cw, efficiency, OPO, pump tuning, quasiphasematch

B. Vincent, A. Boudrioua, R. Kremer, and P. Moretti, "Second harmonic generation in helium-implanted periodically poled lithium niobate planar waveguides," Opt. Comm. **247,** 461-469 (2005). Keywords: cw, efficiency, sum-frequency, waveguides

R. Wang, B. Wang, Y. Liu, and L. Shi, "Double-frequency properties of In:$LiNbO_3$ crystals," Cryst. Res. Tech. **40,** 684-687 (2005). Keywords: crystal growth, damage, efficiency, nanosecond, sum-frequency, transmission

T. Wang, B. Ma, Y. Sheng, P. Ni, B. Cheng, and D. Zhang, "Large angle acceptance of quasi-phase-matched second harmonic generation in a homocentrically poled $LiNbO_3$," Opt. Comm. **252,** 397-401 (2005). Keywords: acceptance angle, ferroelectric poling, quasiphasematch, sum-frequency

T. Wang, H. Zhu, L. Qian, G. Xu, and D. Fan, "Tunable femtosecond optical parametric amplifier with weak cw seeding," Opt. Comm. **239,** 397-401 (2004). Keywords: femtosecond, OPA, quasiphasematch

M. A. Watson, M. V. O'Connor, P. S. Lloyd, D. P. Shepherd, D. C. Hanna, C. B. E. Gawith, L. Ming, P. G. R. Smith, and O. Balachninaite, "Extended operation of synchronously pumped optical parametric oscillators to longer idler wavelengths," Opt. Lett. **27,** 2106-2108 (2002). Keywords: bandwidth, efficiency, M^2, OPO, picosecond, quasiphasematch

M. C. Wengler, B. Fassbender, E. Soergel, and K. Buse, "Impact of ultraviolet light on coercive field, poling dynamics and poling quality of various lithium niobate crystals from different sources," J. Appl. Phys. **96,** 2816-2820 (2004). Keywords: ferroelectric poling

M. C. Wengler, U. Heinemeyer, E. Soergel, and K. Buse, "Ultraviolet light-assisted domain inversion in magnesium-doped lithium niobate crystals," J. Appl. Phys. **98,** 064104-1-7 (2005). Keywords: ferroelectric poling

R. T. White, I. T. McKinnie, S. D. Butterworth, G. W. Baxter, D. M. Warrington, P. G. R. Smith, G. W. Ross, and D. C. Hanna, "Tunable single-frequency ultraviolet generation from a continuous-wave Ti:sapphire laser with an intracavity PPLN frequency doubler," Appl. Phys. B **77,** 547-550 (2003). Keywords: cw, damage, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth, temperature tuning

M. Wohlecke, G. Corradi, and K. Betzler, "Optical methods to characterize the composition and homogeniety of lithium niobate single crystals," Appl. Phys. B **63,** 323-330 (1996). Keywords: Sellmeier, transmission

X. Xie and M. M. Fejer, "Cascaded optical parametric generation in reverse-proton-exchange lithium niobate waveguides," J. Opt. Soc. Am. B **24,** 585-591 (2007). Keywords: OPG, picosecond, quasiphasematch, sum-frequency, waveguides

X. Xie, A. M. Schober, C. Langrock, R. V. Roussev, J. R. Kurz, and M. M. Fejer, "Picojoule threshold, picosecond optical parametric generation in reverse proton-exchanged lithium niobate waveguides," J. Opt. Soc. Am. B **21,** 1397-1402 (2004). Keywords: bandwidth, efficiency, ferroelectric poling, OPG, picosecond, quasiphasematch, waveguides

C. Q. Xu, H. Okayama, and Y. Ogawa, "A novel method to characterize photorefractive damage in quasiphase-matched wavelength converters," Rev. Sci. Inst. **71,** 335-337 (2000). Keywords: damage, quasiphasematch, sum-frequency, waveguides

C. Q. Xu, H. Okayama, and Y. Ogawa, "Photorefractive damage of $LiNbO_3$ quasiphase matched wavelength converters," J. Appl. Phys. **87,** 3203-3208 (2000). Keywords: damage

X. Xu, T.-C. Chong, S. Solanki, X. Liang, and S. Yuan, "Anisotropic thermal expansion of stoichiometric lithium niobate crystals grown along the normal direction of facets," Opt. Mater. **26,** 489-494 (2004). Keywords: thermal expansion

K. H. Yang, J. R. Morris, P. L. Richards, and Y. R. Shen, "Phase-matched far-infrared generation by optical mixing of dye laser beams," Appl. Phys. Lett. **23,** 669-671 (1973). Keywords: difference-frequency, efficiency

S. T. Yang and S. P. Velsko, "Frequency-agile kilohertz repetition-rate optical parametric oscillator based on periodically poled lithium niobate," Opt. Lett. **24,** 133-135 (1999). Keywords: bandwidth, efficiency, OPO, phasematch, quasiphasematch

J.-Q. Yao, Y.-Z. Yu, P. Wang, T. Wang, B.-G. Zhang, X. ding, J. Chen, H. J. Peng, and H. S. Kwok, "Nearly-noncritical phase matching in MgO:$LiNbO_3$ optical parametric oscillators," Chin. Phys. Lett. **18,** 1214-1217 (2001). Keywords: efficiency, nanosecond, OPO, phasematch, Sellmeier, temperature tuning

Z. Ye, Q. Lou, J. Dong, Y. Wei, and B. Lin, "Compact continuous-wave blue lasers by direct frequency doubling of laser diodes with periodically poled lithium niobate waveguide crystals," Opt. Lett. **30,** 73-74 (2005). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth, waveguides

H. Yoshida, H. Fujita, M. Nakatsuka, M. Yoshimura, T. Sasaki, T. Kamimura, and K. Yoshida, "Dependences of laser-induced bulk damage threshold and crack patterns in several nonlinear crystals of irradiation direction," Jap. J. Appl. Phys. **45,** 766-769 (2006). Keywords: damage

C.-S. Yu and A. H. Kung, "Grazing-incidence periodically poled $LiNbO_3$ optical parametric oscillator," J. Opt. Soc. Am. B **16,** 2233-2238 (1999). Keywords: bandwidth, efficiency, OPO, quasiphasematch

N. E. Yu, C. Jung, S.-S. Kee, Y. L. Lee, B.-A. Yu, D.-K. Ko, and J. Lee, "Backward terahertz generation in periodically poled lithium niobate crystal via difference frequency generation," Jap. J. Appl. Phys. **46,** 1501-1504 (2007). Keywords: femtosecond, quasiphasematch, THz

N. E. Yu, J. H. Ro, M. Cha, S. Kurimura, and T. Taira, "Broadband quasi-phase-matched second-harmonic generation in MgO-doped periodically poled $LiNbO_3$ at the communications band," Opt. Lett. **27,** 1046-1048 (2002). Keywords: bandwidth, d_{ij}, efficiency, group velocity, quasiphasematch, sum-frequency, temperature-bandwidth, temperature tuning

N. E. Yu, S. Kurimura, K. Kitamura, J. H. Ro, M. Cha, S. Ashihara, T. Shimura, K. Kuroda, and T. Taira, "Efficient frequency doubling of a femtosecond pulse with simultaneous group-velocity matching and quasi phase matching in periodically poled, MgO-doped lithium niobate," Appl. Phys. Lett. **82,** 3388-3390 (2003). Keywords: bandwidth, d_{eff}, efficiency, femtosecond, group velocity, quasiphasematch, sum-frequency, temperature-bandwidth

D. E. Zelmon, D. L. Small, and D. Jundt, "Infrared corrected Sellmeier coefficients for congruently grown lithium niobate and 5 mol. % magnesium oxide-doped lithium niobate," J. Opt. Soc. Am. B **14,** 3319-3322 (1997). Keywords: quasiphasematch, Sellmeier

B.-G. Zhang, J.-Q. Yao, Y. Lu, D.-G. Xu, F. Ji, T.-L. Zhang, X. Zhao, P. Wang, and K.-X. Xu, "High-average-power nanosecond quasi-phase-matched single-pass optical parametric generator in periodically poled lithium niobate," Chin. Phys. Lett. **22,** 1691-1693 (2005). Keywords: efficiency, nanosecond, quasiphasematch, temperature tuning

X. P. Zhang, J. Hebling, J. Kuhl, W. W. Ruhle, and H. Giessen, "Efficient intracavity generation of visible pulses in a femtosecond near-infrared optical parametric oscillator," Opt. Lett. **26,** 2005-2007 (2001). Keywords: efficiency, femtosecond, OPO, quasiphasematch, sum-frequency

X. P. Zhang, J. Hebling, A. Bartels, D. Nau, J. Kuhl, W. W. Ruhle, and H. Giessen, "1-GHz-repetition-rate femtosecond optical parametric oscillator," Appl. Phys. Lett. **80,** 1873-1875 (2002). Keywords: efficiency, femtosecond, OPO, quasiphasematch

X. P. Zhang, J. Hebling, J. Kuhl, W. W. Ruhle, L. Palfalvi, and H. Giessen, "Femtosecond near-IR optical parametric oscillator with efficient intracavity generation of visible light," J. Opt. Soc. Am. B **19,** 2479-2488 (2002). Keywords: bandwidth, efficiency, femtosecond, OPO, quasiphasematch, sum-frequency

Y. Zhang, Y. H. Xu, M. H. Li, Y. Q. Zhao, "Growth and properties of Zn doped lithium niobate crystal," J. Crystal Growth **233,** 537-540 (2001). Keywords: crystal growth, damage

P. Zhao, B. Zhang, E. Li, D. Xu, Y. Lu, T. Zhang, F. Ji, Y. Wang, P. Wang, and J. Yao, "J. Opt. A: Pure Appl. Opt. **9,** 235-238 (2007). Keywords: nanosecond, OPG, quasiphasematch

$Li_2SO_4 \bullet H_2O$:

M. V. Hobden, "Phase-matched second-harmonic generation in biaxial crystals," J. Appl. Phys. **38,** 4365-4372. Keywords: phasematch

$LiTaO_3$:

S. Ashihara, J. Nishina, T. Shimura, K. Kuroda, T. Sugita, K. Mizuuchi, and K. Yamamoto, "Nonlinear refraction of femtosecond pulses due to quadratic and cubic nonlinearities in periodically poled lithium tantalate," Opt. Comm. **222,** 421-427 (2003). Keywords: femtosecond, ferroelectric poling, n_2, quasiphasematch

Ch. Baumer, D. Berben, K. Buse, H. Hesse, and J. Imbrock, "Determination of the composition of lithium tantalate crystals by zero-birefringence measurements," Appl. Phys. Lett. **82,** 2248-2250 (2003). Keywords: compositional tuning, temperature tuning

Ch. Baumer, C. David, A. Tunyagi, K. Betzler, H. Hesse, E. Kratzig, and M. Wohlecke, "Composition dependence of the ultraviolet absorption edge in lithium tantalate," J. Appl. Phys. **93,** 3102-3104 (2003). Keywords: crystal growth, transmission

P. T. Brown, G. W. Ross, R. W. Eason, and A. R. Pogosyan, "Control of domain structures in lithium tantalate using interferometric optical patterning," Opt. Comm. **163,** 310-316 (1999). Keywords: ferroelectric poling

A. Bruner, D. Eger, and S. Ruschin, "Second-harmonic generation of green light in periodically poled stoichiometric $LiTaO_3$ doped with MgO," J. Appl. Phys. **96,** 7445-7449 (2004). Keywords: d_{ij}, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

A. Bruner, D. Eger, M. B. Oron, P. Blau, M. Katz, and S. Ruschin, "Temperature-dependent Sellmeier equation for the refractive index of stoichiometric lithium tantalate," Opt. Lett. **28,** 194-196 (2003). Keywords: cw, efficiency, ferroelectric poling, nanosecond, OPO, phasematch, quasiphasematch, Sellmeier, sum-frequency, temperature tuning, thermal expansion

P. A. Champert, S. V. Popov, J. R. Taylor, and J. P. Meyn, "Efficient second-harmonic generation at 384 nm in periodically poled lithium tantalate by use of a visible Yb-Er-seeded fiber source," Opt. Lett. **25,** 1252-1254 (2000). Keywords: bandwidth, d_{eff}, efficiency, quasiphasematch, sum-frequency

Y. Du, S. N. Zhu, Y. Y. Zhu, P. Xu, C. Zhang, Y. B. Chen, Z. W. Liu, N. B. Ming, X. R. Zhang, F. F. Zhang, and S. Y. Zhang, "Parametric and cascaded parametric interactions in a quasiperiodic optical superlattice," Appl. Phys. Lett. **81,** 1573-1575 (2002). Keywords: bandwidth, efficiency, ferroelectric poling, OPG, picosecond, quasiphasematch, sum-frequency

D. Feng, "Ferroelectric crystals with periodic laminar domains: a new type of nonlinear optical material," CLEO 1987 Paper TUGG1. Keywords: ferroelectric poling

Y. Furukawa, M. Nakamura, S. Takekawa, K. Ditamura, T. Hatanaka, K. Nakamura, H. Ito, A. Alexandrovski, and M. M. Fejer, "Nearly stoichiometric $LiTaO_3$ for bulk quail-phase-matched devices," OSA TOPS **50,** 685-687 (2001). Keywords: crystal growth, damage, efficiency, ferroelectric poling, OPO, quasiphasematch

L. Gallmann, G. Steinmeyer, U. Keller, G. Imeshev, M. M. Fejer, and J.-P. Meyn, "Generation of sub-6-fs blue pulses by frequency doubling with quasi-phase-matching gratings," Opt. Lett. **26,** 614-616 (2001). Keywords: chirp, efficiency, femtosecond, quasiphasematch, sum-frequency

A. G. Getman, S. V. Popov, and J. R. Taylor, "7 W average power, high-beam-quality green generation in MgO-doped stoichiometric periodically poled lithium tantalate," Appl. Phys. Lett. **85,** 3026-3028 (2004). Keywords: efficiency, M^2, nanosecond, quasiphasematch, sum-frequency

G. Ghosh, "Thermo-optic coefficients of $LiNbO_3$, $LiIO_3$, and $LiTaO_3$ nonlinear crystals," Opt. Lett. **19,** 1391-1393 (1994). Keywords: n(T)

V. Goplan and T. E. Mitchell, "Wall velocities, switching times, and the stabilization mechanism of 180° domains is congruent $LiTaO_3$ crystals," J. Appl. Phys. **83,** 941-954 (1998). Keywords: ferroelectric poling

V. Goplan and T. E. Mitchell, "*In situ* video observation of 180° domain switching in $LiTaO_3$ by electro-optic imaging microscopy," J. Appl. Phys. **85,** 2304-2306 (1999). Keywords: ferroelectric poling

T. Hatanaka, K. Nakamura, T. Taniuchi, H. Ito, Y. Furukawa, and K. Kitamura, "Quasi-phase-matched optical parametric oscillation with periodically poled stoichiometric $LiTaO_3$," Opt. Lett. **25,** 651-653 (2000). Keywords: d_{eff}, efficiency, ferroelectric poling, OPO, quasiphasematch, temperature tuning

J.-L. He, X.-P. Hu, S.-N. Zhu, Y.-Y. Zhu, and N.-B. Min, "Efficient generation of red and blue light in a dual-structure periodically poled $LiTaO_3$ crystal," Chin. Phys. Lett. **20,** 2175-2177 (2003). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

J.-L. He, J. Liao, H. Liu, J. Du, F. Xu, H.-T. Wang, S. N. Zhu, Y. Y. Zhu, and N. B. Ming, "Simultaneous cw red, yellow, and green light generation, "traffic signal lights," by frequency doubling and sum-frequency mixing in an aperiodically poled $LiTaO_3$," Appl. Phys. Lett. **83,** 228-230 (2003). Keywords: d_{eff}, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature tuning

J. He, J. Liu, G. Luo, Y. Jia, J. Du, C. Guo, S. Zhu, "Blue generation in a periodically poled $LiTaO_3$ by frequency tripling an 1342 nm Nd:YVO_4 laser," Chin. Phys. Lett. **19,** 944-946 (2002). Keywords: efficiency, quasiphasematch, sum-frequency, temperature tuning

J. L. He, G. Z. Luo, H. T. Wang, S. N. Zhu, Y. Y. Zhu, Y. B. Chen, and N. B. Ming, "Generation of 840 mW of red light by frequency doubling a diode-pumped 1342 nm Nd:YVO_4 laser with periodically-poled $LiTaO_3$," Appl. Phys. B **74,** 537-539 (2002). Keywords: d_{eff}, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

J. Hirohashi, V. Pasiskevicius, S. Wang, and F. Laurell, "Picosecond blue-light-induced infrared absorption in single-domain and periodically poled ferroelectrics," J. Appl. Phys. **101,** 033105 (2007). Keywords: damage, transmission

F. Holtmann, J. Imbrock, Ch. Baumer, H. Hesse, E. Kratzig, and D. Kip, "Photorefractive properties of undoped lithium tantalate crystals for various compositions," J. Appl. Phys. **96,** 7455-7459 (2004). Keywords: conductivity, damage

X. P. Hu, X. Wang, J. L. He, Y. X. Fan, S. N. Zhu, H. T. Wang, Y. Y. Zhu, and N. B. Ming, "Efficient generation of red light by frequency doubling in a periodically-poled nearly-stoichiometric $LiTaO_3$ crystal," Appl. Phys. Lett. **85,** 188-190 (2004). Keywords: efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

D. S. Hum, R. K. Route, and M. M. Fejer, "Quasi-phase-matched second-harmonic generation of 532 nm radiation in 25°-rotated, x-cut, near-stoichiometric, lithium tantalate fabricated by vapor transport equilibrium," Opt. Lett. **32,** 961-963 (2007). Keywords: crystal growth, efficiency, picosecond, quasiphasematch, sum-frequency

H. Iwasaki, T. Yamada, N. Niizeki, and H. Toyoda, "Refractive indices of $LiTaO_3$ at high temperatures," Jap. J. Appl. Phys. **7,** 185-186 (1968). Keywords: n(T)

M. Katz, R. K. Route, D. S. Hum, K. R. Parameswaran, G. D. Miller, and M. M. Fejer, "Vapor-transport equilibrated near-stoichiometric lithium tantalate for frequency-conversion applications," Opt. Lett. **29,** 1775-1777 (2004). Keywords: crystal growth, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency

M. E. Klein, D.-H. Lee, J.-P. Meyn, B. Beier, K.-J. Boller, and R. Wallenstein, "Diode-pumped continuous-wave widely tunable optical parametric oscillator based on periodically poled lithium tantalate," Opt. Lett. **23,** 831-833 (1998). Keywords: efficiency, OPO, phasematch, quasiphasematch, temperature tuning

H. X. Li, Y. X. Fan, P. Xu, S. N. Zhu, P. Lu, Z. D. Gao, H. T. Wang, Y. Y. Zhu, N. B. Ming, and J. L. He, "530-mW quasi-white-light generation using all-solid-state laser technique," J. Appl. Phys. **96,** 7756-7758 (2004). Keywords: efficiency, nanosecond, quasiphasematch, sum-frequency

J. Liao, J.-L. He, H. Liu, H.-T. Wang, S. N. Zhu, Y. Y. Zhu, and N. B. Ming, "Simultaneous generation of red, green, and blue quasi-continuous-wave coherent radiation based on multiple quasi-phase-matched interactions from a single, aperiodically-poled $LiTaO_3$," Appl. Phys. Lett. **82,** 3159-3161 (2003). Keywords: d_{eff}, efficiency, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

J. Liao, J. L. He, H. Liu, J. Du, F. Xu, H. T. Wang, S. N. Zhu, Y. Y. Zhu, and N. B. Ming, "Red, yellow, green, and blue-four-color light from a single, aperiodically poled $LiTaO_3$ crystal," Appl. Phys. B **78,** 265-267 (2004). Keywords: efficiency, ns, quasiphasematch, sum-frequency

Z. W. Liu, Y. Du, J. Liao, S. N. Zhu, Y. Y Zhu, Y. Q. Qin, H. T. Wang, J. L. He, C. Zhang, and N. B. Ming, "Engineering of a dual-period optical superlattice used in a coupled optical parametric interaction," J. Opt. Soc. Am. B **19,** 1676-1684 (2002). Keywords: damage, efficiency, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

X. F. Ma and X. C. Zhang, "Determination of ratios between nonlinear-optical coefficients by using subpicosecond optical rectification," J. Opt. Soc. Am. B **10,** 1175-1179 (1993). Keywords: d_{ij}

G. Marcus, A. Zigler, D. Eger, A. Bruner, and A. Englander, "Generation of a high-energy ultrawideband chirped source in periodically poled $LiTaO_3$," J. Opt. Soc. Am. B **22,** 620-622 (2005). Keywords: bandwidth, chirp, efficiency, OPG, picosecond, pump tuning, quasiphasematch

J.-M. Melkonian, T.-H. My, F. Bretenaker, and C. Drag, "High spectral purity and tunable operation of a continuous singly resonant optical parametric oscillator emitting in the red," Opt. Lett. **32,** 518-520 (2007). Keywords: cw, efficiency, OPO, quasiphasematch

J.-P. Meyn and M. M. Fejer, "Tunable ultraviolet radiation by second-harmonic generation in periodically poled lithium tantalate," Opt. Lett. **22,** 1214-1216 (1997). Keywords: d_{eff} , efficiency, sum-frequency, quasiphasematch, Sellmeier

J.-P. Meyn, C. Laue, R. Knappe, R. Wallenstein, and M. M. Fejer, "Fabrication of periodically poled lithium tantalate for UV generation with diode lasers," Appl. Phys. B **73,** 111-114 (2001). Keywords: damage, d_{eff}, efficiency, ferroelectric poling, quasiphasematch, sum-frequency

K. Mizuuchi and K. Yamamoto, "Second-harmonic generation in domain-inverted grating induced by focused ion beam," Opt. Review **Sample Issue,** 36-38 (1994). Keywords: ferroelectric poling

K. Mizuuchi and K. Yamamoto, "Harmonic blue light generation in bulk periodically poled $LiTaO_3$," Appl. Phys. Lett. **66,** 2943 (1995). Keywords: ferroelectric poling

K. Mizuuchi and K. Yamamoto, "Generation of 340-nm light by frequency doubling of a laser diode in bulk periodically poled $LiTaO_3$," Opt. Lett. **21,** 107 (1996). Keywords: efficiency, ferroelectric poling, sum-frequency

K. Mizuuchi, K. Yamamoto, and M. Kato, "Generation of ultraviolet light by freuquency doubling of a red laser diode in a first-order periodically poled bulk $LiTaO_3$," Appl. Phys. Lett. **70,** 1201-1203 (1997). Keywords: efficiency, ferroelectric poling, frequency doubling

M. Nakamura, S. Higuchi, S. Takekawa, K. Terabe, Y. Furukawa, and K. Kitamura, "Refractive indices in undoped and MgO-doped near-stoichiometric $LiTaO_3$ crystals," Jpn. J. Appl. Phys. **41,** L465-L467 (2002). Keywords: compositional tuning, crystal growth, Sellmeier

G. W. Ross, P. G. R. Smith, and R. W. Eason, "Optical control of electric field poling in $LiTaO_3$," Appl. Phys. Lett. **71,** 309-311 (1997). Keywords: ferroelectric poling

F. Rotermund, C. J. Yoon, V. Petrov, F. Noack, S. Kurimura, N.-E. Yu, and K. Kitamura, "Application of periodically poled stoichiometric $LiTaO_3$ for efficient optical parametric chirped pulse amplification at 1 kHz," Opt. Exp. **12,** 6421-6427 (2004). Keywords: chirped pulse amplification, femtosecond, OPA, quasiphasematch

F. Rotermund, C. J. Yoon, K. Kim, H. Lim, S. Kurimura, and K. Kitamura, "Optical parametric chirped pulse amplification of Cr:forsterite laser pulses in periodically poled stoichiometric $LiTaO_3$ at 1 kHz," Appl. Phys. B **85,** 17-20 (2006). Keywords: bandwidth, chirped pulse amplification, efficiency, femtosecond, OPA, quasiphasematch

G. K. Samanta, G. R. Fayaz, Z. Sun, and M. Ebrahim-Zadeh, "High-power, continuous-wave, singly resonant optical parametric oscillator based on MgO:sPPLT," Opt. Lett. **32,** 400-402 (2007). Keywords: cw, efficiency, OPO, temperature tuning

F. Shimura, "Refractive indices of $LiNb_{1-y}Ta_yO_3$ single crystals," J. Crystal Growth **42,** 579-582 (1977). Keywords: Sellmeier

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

U. Strossner, A. Peters, J. Mlynek, S. Schiller, J.-P. Meyn, and R. Wallenstein, "Single-frequency continuous-wave radiation from 0.77 to 1.73 μm generated by a green-pumped optical parametric oscillator with periodically poled $LiTaO_3$," Opt. Lett. **24,** 1602-1604 (1999). Keywords: efficiency, OPO, quasiphasematch, temperature tuning

T. Sudmeyer, J. Aus der Au, R. Paschotta, U. Keller, P. G. R. Smith, G. W. Ross, and D. C. Hanna, "Femtosecond fiber-feedback optical parametric oscillator," Opt. Lett. **26,** 304-306 (2001). Keywords: bandwidth, efficiency, femtosecond, M^2, OPO, quasiphasematch

T. Sudmeyer, E. Innerhofer, F. Brunner, R. Paschotta, T. Usami, H. Ito, S. Kurimura, K. Kitamura, D. C. Hanna, and U. Keller, "High-power femtosecond fiber-feedback optical parametric oscillator based on periodically poled stoichiometric $LiTaO_3$," Opt. Lett. **29,** 1111-1113 (2004). Keywords: bandwidth, efficiency, femtosecond, M^2, OPO, quasiphasematch

L. Tian, V. Gopalan, and L. Galambos, "Domain reversal in stoichiometric $LiTaO_3$ prepared by vapor transport equilibrium," Appl. Phys. Lett. **85,** 4445-4447 (2004). Keywords: ferroelectric poling, quasiphasematch

X. Tong, M. Zhang, A. Yariv, A. Agranat, R. Hofmeister, and V. Leyva, "Near infrared absorption and dark conductivity of $K_{1-y}Li_yTa_{1-x}Nb_xO_3$ crystal," Appl. Phys. Lett. **69,** 479 (1996). Keywords: conductivity, transmission

S. V. Tovstonog, S. Kurimura, and K. Kitamura, "High power continuous-wave green light generation by quasiphase matching in Mg stoichiometric lithium tantalate," Appl. Phys. Lett. **90,** 051115 (2007). Keywords: cw, efficiency, quasiphasematch, sum-frequency, temperature-bandwidth

S.-Y. Tu, A. H. Kung, Z. D. Gao, and S. N. Zhu, "Efficient periodically poled stoichiometric lithium tantalate optical parametric oscillator for the visible to near-infrared region," Opt. Lett. **30,** 2451-2453 (2005). Keywords: damage, efficiency, nanosecond, OPO, quasiphasematch

S.-Y. Tu, A. H. Kung, Z. D. Gao, S. N. Zhu, S. Kurimura, and K. Kitamura, "Green-pumped high-power optical parametric oscillator based on periodically poled MgO-doped stoichiometric $LiTaO_3$," Opt. Lett. **31,** 3632-3634 (2006). Keywords: efficiency, M^2, nanosecond, OPO, quasiphasematch, temperature tuning

N. E. Yu, S. Kurimura, Y. Nomura, K. Kitamura, "Stable high-power green light generation with thermally conductive periodically poled stoichiometric lithium tantalate," Jap. J. Appl. Phys. **43,** L1265-L1267 (2004). Keywords: damage, d_{eff}, efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency, temperature-bandwidth

N. E. Yu, S. Kurimura, Y. Nomura, M. Nakamura, K. Kitamura, J. Sakuma, Y. Otani, and A. Shiratori, "Periodically poled near-stoichiometric lithium tantalate for optical parametric oscillation," Appl. Phys. Lett. **84,** 1662-1664 (2004). Keywords: efficiency, ferroelectric poling, nanosecond, OPO, quasiphasematch, temperature tuning

N. E. Yu, S. Kurimura, Y. Nomura, M. Nakamura, K. Kitamura, Y. Takada, J. Sakuma, and T. Sumiyoshi, "Efficient optical parametric oscillation based on periodically poled 1.0 mol % MgO-doped stoichiometric $LiTaO_3$," Appl. Phys. Lett. **85,** 5134-5136 (2004). Keywords: d_{eff}, efficiency, nanosecond, OPO, quasiphasematch, temperature tuning

S. Zhu, Y. Zhu, Z. Yang, H. Wang, Z. Zhang, J. Hong, and C. Ge, "Second-harmonic generation of blue light in bulk periodically poled $LiTaO_3$," Appl. Phys. Lett. **67,** 320 (1995). Keywords: ferroelectric poling

$NdCa_4O(BO_3)_3$ NdCOB:

S. Zhang, Z. Cheng, J. Han, G. Zhou, Z. Shao, C. Wang, Y. T. Chow, and H. Chen, "Growth and investigation of efficient self-frequency-doubling $Nd_xGd_{1-x}Ca_4O(BO_3)_3$," J. Crystal Growth **206,** 197-202 (1999). Keywords: crystal growth, crystal structure, d_{eff}, efficiency, flourescence, phasematch, sum-frequency, thermal expansion, transmission

PbB_4O_7 (Lead tetraborate):

Y. S. Oseledchik, A. L. Prosvirnin, A. I. Pisarevskiy, V. V. Starshenko, V. V. Osadchuk, S. P. Belokrys, N. V. Svitanko, A. S. Korol, S. A. Krikunov, A. F. Selevich, "New nonlinear optical crystals: strontium and lead tetraborate," Opt. Materials **4,** 669-674 (1995). Keywords: crystal growth, crystal structure, damage, d_{eff}, d_{ij}, Sellmeier, transmission

$PbMoO_4$:

V. T. Gabrielyan, O. S. Grunskii, A. A. Gukasov, A. V. Denisov, N. S. Nikogosyan, and L. M. Fedorova, "Physical and physicochemical processes accompanying powder synthesis, growth of $PbMoO_4$ crystals, and their annealing in various media: I. Solid-state mechanism of the formation of the Pb_2MoO_5 microheterogeneous phase in $PbMoO_4$ crystals," Crystallography Repts **50,** 327-334 (2005). Keywords: crystal growth

$Pb(HCOO)_2$ (Lead formate):

K. Betzler, H. Hesse, R. Jaquet, and D. Lammers, "Optical second-harmonic generation in lead formate," J. Appl. Phys. **87,** 22-24 (1999). Keywords: d_{ij}, damage, phasematch, Sellmeier, transmission

$PbTiO_3$:

S. K. Kurtz and T. T. Perry, "A powder technique for the evaluation of nonlinear optical materials," J. Appl. Phys. **39,** 3798-3813 (1968). Keywords: d_{eff}

RDA:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

RD^*A:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

J. J. McFerran and A. N. Luiten, "Efficient continuous-wave ultraviolet generation in LiB_3O_5 and RbD_2AsO_4," Appl. Opt. **39,** 3115-3119 (2000). Keywords: acceptance angle, efficiency, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

RDP:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

C. D. Marshall, S. A. Payne, M. A. Henesian, J. A. Speth, and H. T. Powell, "Ultraviolet-induced transient absorption in potassium dihydrogen phosphate and its influence on frequency conversion," J. Opt. Soc. Am. B **11,** 774-785 (1994). Keywords: two-photon absorption

RD^*P:

K. W. Kirby and L. G. DeShazer, "Refractive indices of 14 nonlinear crystals isomorphic to KH_2PO_4," J. Opt. Soc. Am. B **4,** 1072-1078 (1987). Keywords: Sellmeier

$RbNbB_2O_6$ (RNB):

J. F. H. Nicholls, B. Henderson, and B.H. T. Chai, "Structure and optical properties of the $RbNbB_2O_6$ family of mixed borates," Opt. Materials **8,** 215-226 (1997). Keywords: crystal structure, Sellmeier.

J. F. H. Nicholls, B. Henderson, and B.H. T. Chai, "The nonlinear optical properties of the XYB_2O_6 family of compounds," Opt. Materials **16,** 453-462 (2001). Keywords: acceptance angle, crystal structure, damage, d_{ij}, phase match, sum-frequency, transmission

$RbTiOAsO_4$ (RTA):

S. Banerjee, N. Umemura, and K. Kato, "Parametric oscillation at 2.1 μm in periodically poled $RbTiOAsO_4$," Opt. Comm. **260,** 298-300 (2006). Keywords: efficiency, nanosecond, OPO, phasematch

B. Boulanger, J. P. Feve, G. Marnier, and B. Menaert, "Methodology for optical studies of nonlinear crystals: application to the isomorph family $KTiOPO_4$, $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," Pure Appl. Opt. **7,** 239-256 (1998). Keywords: d_{eff}, d_{ij}, phasematch, Sellmeier, walkoff angle

W. Chen, G. Mouret, D. Boucher, and F. K. Tittel, "Mid-infrared trace gas detection using continuous-wave difference frequency generation in periodically poled $RbTiOAsO_4$," Appl. Phys. B **72,** 873-876 (2001). Keywords: acceptance angle, bandwidth, difference-frequency, efficiency, temperature-bandwidth, temperature tuning

L. K. Cheng, L. T. Cheng, J. Galperin, P. A. Morris Hotsenpiller, and J. D. Bierlein, "Crystal growth and characterization of $KTiOPO_4$ isomorphs from the self-fluxes," J. Crystal Growth **137,** 107-115 (1994). Keywords: d_{ij}, Sellmeier

T. J. Edwards, G. A. Turnbull, M. H. Dunn, M. Ebrahimzadeh, H. Karlsson, G. Arvidson, and F. Laurell, "Continuous-wave singly resonant optical parametric oscillator based on periodically poled $RbTiOAsO_4$," Opt. Lett. **23,** 837-839 (1998). Keywords: efficiency, OPO

D. L. Fenimore, K. L. Schepler, D. Zelmon, S. Kuck, U. B. Ramabadran, P. Von Richter, and D. Small, "Rubidium titanyl arsenate difference-frequency generation and validation of new Sellmeier coefficients," J. Opt. Soc. Am. B **13,** 1935-1940 (1996). Keywords: Sellmeier, phasematch, efficiency, difference-frequency

J.-P. Feve, B. Boulanger, O. Pacaud, I. Rousseau, B. Menaert, G. Marnier, P. Villeval, C. Bonnin, G. M. Loiacono, and D. N. Loiacono, "Phase-matching measurements and Sellmeier equations over the complete transparency range of $KTiOAsO_4$, $RbTiOAsO_4$, and $CsTiOAsO_4$," J. Opt. Soc. Am. B **17,** 775-780 (2000). Keywords: difference frequency, phasematch, Sellmeier, sum-frequency

K. Fradkin-Kashi, A. Arie, P. Urenski, and G. Rosenman, "Characterization of optical and nonlinear properties of periodically-poled $RbTiOAsO_4$ in the mid-infrared range via difference-frequency generation," Appl. Phys. B **71,** 251-255 (2000). Keywords: conductivity, difference-frequency, efficiency, ferroelectric poling, phasematch, quasiphasematch, Sellmeier, temperature-bandwidth, temperature tuning

G. Hansson, H. Karlsson, and F. Laurell, "Unstable resonator optical parametric oscillator based on quasi-phase-matched $RbTiOAsO_4$," Appl. Opt. **40,** 5446-5451 (2001). Keywords: efficiency, M^2, OPO, quasiphasematch

G. Hansson, H. Karlsson, S. Wang, and F. Laurell, "Transmission measurements in KTP and isomorphic compounds," Appl. Opt. **39,** 5058-5069 (2000). Keywords: transmission

Z. W. Hu, P. A. Thomas, J. Webörn, and G. M. Loiacono, "Domain inversion in $RbTiOAsO_4$ using electric field poling," J. Phys. D: Appl. Phys. **29,** 1681-1684 (1996). Keywords: ferroelectric poling

K. Kato, E. Takaoka, and N. Umemura, "Thermo-optic dispersion formula for $RbTiOAsO_4$," Jpn. J. Appl. Phys. **42,** 6420-6423 (2003). Keywords: nanosecond, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning

H. Karlsson, M. Olson, G. Arvidsson, F. Laurell, U. Bader, A. Borsutzky, R. Wallenstein, W. Wickstrom, and M. Gustafsson, "Nanosecond optical parametric oscillator based on large-aperture periodically poled $RbTiOAsO_4$," Opt. Lett. **24,** 330-332 (1999). Keywords: d_{eff}, efficiency, ferroelectric poling, OPO, quasiphasematch, temperature tuning

G. T. Kennedy, D. T. Reid, A. Miller, M. Ebrahimzadeh, H. Karlson, G. Arvidsson, and F. Laurell, "Near- to mid-infrared picosecond optical parametric oscillator based on periodically poled $RbTiOAsO_4$," Opt. Lett. **23,** 503-505 (1998). Keywords: efficiency, ferroelectric poling, OPO, phasematch, picosecond, quasiphasematch

I. D. Lindsay, D. J. M. Stothard, C. F. Rae, and M. H. Dunn, "Continuous-wave, pump-enhanced optical parametric oscillator based on periodically-poled $RbTiOAsO_4$," Opt. Exp. **11,** 134-140 (2003). Keywords: cw, efficiency, OPO, pump tuning, quasiphasematch, temperature tuning

P. Loza-Alvarez, D. T. Reid, M. Ebrahimzadeh, W. Sibbett, H. Harlsson, P. Henridsson, G. Arvidsson, and F. Laurell, "Periodically poled $RbTiOAsO_4$ femtosecond optical parametric oscillator tunable from 1.38 to 1.58 μm," Appl. Phys. B **68,** 177-180 (1999). Keywords: efficiency, femtosecond, OPO, phasematch, quasiphasematch

M. Peltz, U. Bader, A. Borsutzky, R. Wallenstein, J. Hellstrom, H. Karlsson, V. Pasiskevicius, and F. Laurell, "Optical parametric oscillators for high pulse energy and high average power operation based on large aperture periodically poled KTP and RTA," Appl. Phys. B **73,** 663-670 (2001). Keywords: acceptance angle, bandwidth, conductivity, d_{ij}, efficiency, ferroelectric poling, OPO, quasiphasematch, Sellmeier, temperature tuning, thermal expansion

V. Petrov, F. Noack, and R. Stolzenberger, "Seeded femtosecond optical parametric amplification in the mid-infrared spectral region above 3μm," Appl. Opt. **36,** 1164-1172 (1997). Keywords: acceptance angle, d_{eff}, damage, femtosecond, group velocity

P. E. Powers, C. L. Tang, L. K. Cheng, "High-repetition-rate femtosecond optical parametric oscillator based on $RbTiOAsO_4$," Opt. Lett. **19,** 1439-1441 (1994). Keywords: femtosecond, phasematch, efficiency

D. T. Reid, M. Ebrahimzadeh, and W. Sibbett, "Efficient femtosecond pulse generation in the visible in a frequency-doubled optical parametric oscillator based on $RbTiOAsO_4$," J. Opt. Soc. Am. B **12,** 1157-1163 (1995). Keywords: femtosecond, phasematch, d_{eff}, walkoff, bandwidth, efficiency

D. T. Reid, M. Ebrahimzadeh, and W. Sibbett, "Design criteria and comparison of femtosecond optical parametric oscillators based on $KTiOPO_4$ and $RbTiOAsO_4$," J. Opt. Soc. Am. B **12,** 2168-2179 (1995). Keywords: femtosecond, OPO, pump tuning

D. T. Reid, Z. Penman, M. Ebrahimzadeh, W. Sibbett, H. Karlson, and F. Laurell, "Broadly tunable infrared femtosecond optical parametric oscillator based on periodically poled $RbTiOAsO_4$," Opt. Lett. **22,** 1397-1399 (1997). Keywords: efficiency, femtosecond, quasiphasematch, OPO

W. P. Risk and G. M. Loiacono, "Periodic poling and wavelength frequency doubling in $RbTiOAsO_4$," Appl. Plys. Lett. **69,** 311 (1996). Keywords: bandwidth, conductivity, d_{eff}, efficiency, ferroelectric poling, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

M. Roth, M. Tseitlin, and N. Angert, "Composition-dependent electro-optic and nonlinear optical properties of KTP-family crystals," Opt. Mater. **28,** 71-76 (2006). Keywords: crystal growth, damage

I. Rousseau, B. Boulanger, J.-P. Feve, and O. Pacaud, "Extended sphere method for complete investigation of the phase-matching properties of sum- and difference-frequency generation," Appl. Opt. **38,** 7406-7408 (1999). Keywords: difference-frequency, phasematch, sum-frequency

D. J. M. Stothard, P.-Y. Fortin, A. Carleton, M. Ebrahimzadeh, and M. H. Dunn, "Comparison of continuous-wave optical parametric oscillators based on periodically poled $LiNbO_3$ and periodically poled $RbTiOAsO_4$ pmped internal to a high-power Nd:YVO_4 laser," J. Opt. Soc. Am. B **20,** 2102-2108 (2003). Keywords: cw, efficiency, OPO, quasiphasematch, Sellmeier, temperature tuning

I. Yutsis, B. Kirshner, and A. Arie, "Temperature-dependent dispersion relations for $RbTiOPO_4$ and $RbTiOAsO_4$," Appl. Phys. B **79,** 77-81 (2004). Keywords: Sellmeier, thermal expansion

$RbTiOPO_4$ (RTP):

B. Boulanger, P. Segonds, J.-P. Feve, O. Pacaud, B. Menaert, and J. Zaccaro, "Spheres and cylinders in parametric nonlinear optics," Opt. Mater. **26,** 459-464 (2004). Keywords: phasematch

C. Canalias, J. Hirohashi, V. Pasiskevicius, and F. Laurell, "Polarization-switching characteristics of flux-grown $KTiOPO_4$ and $RbTiOPO_4$ at room temperature," J. Appl. Phys. **97,** 124105-1-9 (2005). Keywords: ferroelectric poling

L. K. Cheng, L. T. Cheng, J. Galperin, P. A. Morris Hotsenpiller, and J. D. Bierlein, "Crystal growth and characterization of $KTiOPO_4$ isomorphs from the self-fluxes," J. Crystal Growth **137,** 107-115 (1994). Keywords: d_{ij}, Sellmeier

A. Fragemann, V. Pasiskevicius, J. Nordborg, J. Hellstrom, H. Karlsson, and F. Laurell, "Frequency converters from visible to mid-infrared with periodically poled $RbTiOPO_4$," Appl. Phys. Lett. **83,** 3090-3092 (2003). Keywords: d_{eff}, efficiency, ferroelectric poling, nanosecond, OPO, quasiphasematch, Sellmeier, temperature tuning, thermal expansion

Y. Guillien, B. Menaert, J. P. Feve, P. Segonds, J. Douady, B. Boulanger, and O. Pacaud, "Crystal growth and refined Sellmeier equations over the complete transparency range of $RbTiOPO_4$," Opt. Mat. **22,** 155-162 (2003). Keywords: crystal growth, difference-frequency, OPA, phasematch, Sellmeier, sum-frequency

G. Hansson, H. Karlsson, S. Wang, and F. Laurell, "Transmission measurements in KTP and isomorphic compounds," Appl. Opt. **39,** 5058-5069 (2000). Keywords: transmission

H. Karlsson, F. Laurell, L. K. Cheng, "Periodic poling of $RbTiOPO_4$ for quasi-phase matched blue light generation," Appl. Phys. Lett. **74,** 1519-1521 (1999). Keywords: d_{eff}, efficiency, ferroelectric poling, quasiphasematch

S. Kuznetsov, G. Pasmanik, A. Shilov, and L. Tiour, "Highly efficient narrow-line generation by difference-frequency mixing of a green pump and the Stokes seed in $RbTiOPO_4$ crystals: excitation of 943-nm emission," Opt. Lett. **29,** 8848-850 (2004). Keywords: efficiency, nanosecond, OPA, two-photon absorption

S. Moscovich, A. Arie, R. Urneski, A. Agronin, G. Rosenman, and Y. Rosenwaks, "Noncollinear second-harmonic generation in sub-micrometer-poled $RbTiOPO_4$," Opt. Exp. **12,** 2236-2242 (2004). Keywords: efficiency, ferroelectric poling, nanosecond, quasiphasematch, sum-frequency

Yu. S. Oseledchik, A. I. Pisarevsky, A. L. Prosvirnin, V. V. Starshenko, and N. V. Svitanko, "Nonlinear optical properties of the flux grown $RbTiOPO_4$ crystal," Opt. Mat. **3,** 237-242 (1994). Keywords:

acceptance angle, damage, d_{eff}, efficiency, nanosecond, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, walkoff angle

V. Petrov, F. Noack, and R. Stolzenberger, "Seeded femtosecond optical parametric amplification in the mid-infrared spectral region above 3μm," Appl. Opt. **36,** 1164-1172 (1997). Keywords: acceptance angle, d_{eff}, damage, femtosecond, group velocity

G. Rosenman, P. Urenski, A. Agronin, A. Arie, and Y. Rosenwaks, "Nanodomain engineering in $RbTiOPO_4$ ferroelectric crystals," Appl. Phys. Lett. **82,** 3934-3936 (2003). Keywords: ferroelectric poling

Y. Rosenwaks, D. Dahan, M. Molotskii, and G. Rosenmann, "Ferroelectric domain engineering using atomic force microscopy tip arrays in the domain breakdown regime," Appl. Phys. Lett. **86,** 1-3 (2005). Keywords: ferroelectric poling

M. Roth, M. Tseitlin, and N. Angert, "Composition-dependent electro-optic and nonlinear optical properties of KTP-family crystals," Opt. Mater. **28,** 71-76 (2006). Keywords: crystal growth, damage

I. Yutsis, B. Kirshner, and A. Arie, "Temperature-dependent dispersion relations for $RbTiOPO_4$ and $RbTiOAsO_4$," Appl. Phys. B **79,** 77-81 (2004). Keywords: Sellmeier, thermal expansion

SiC:

B. Baugher and J. Goldstein, "Temperature dependence of the birefringence of SiC," Opt. Mater. **23,** 519-528 (2003). Keywords: phasematch, Sellmeier, temperature tuning

SPS ($Sn_2P_2S_6$):

D. Haertle, A. Guarino, J. Hajfler, G. Montemezzani, and P. Gunter, "Refractive indices of $Sn_2P_2S_6$ at visible and infrared wavelengths," Opt. Exp. **13,** 2047-2057 (2005). Keywords: Sellmeier

D. Haertle, M. Jazbinsek, G. Montemezzani, and P. Gunter, "Nonlinear optical coefficients and phase-matching conditions in $Sn_2P_2S_6$," Opt. Exp. **13,** 3765-3776 (2005). Keywords: d_{eff}, d_{ij}, phasematch, sum-frequency, transmission, walkoff angle

$SrAlF_5$:

E. G. Villora, K. Shimamura, K. Muramatsu, S. Takekawa, K. Kitamura, and N. Ichinose, "Refractive index of $SrAlF_5$ and derived grating period for UV/VUV quasi-phase-matching SHG," J. Cryst. Growth **280,** 145-150 (2005). Keywords: crystal growth, quasiphasematch, Sellmeier

$Sr_xBa_{1-x}Nb_2O_6$:

T. Volk, D. Isakov, L. Ivleva, and M. Wohlecke, "Ferroelectric switching of strontium-barium-niobate crystals in pulsed fields," Appl. Phys. Lett. **83,** 2220-2222 (2003). Keywords: ferroelectric poling

Y. Y. Zhu, J. S. Fu, R. F. Xiao, and G. K. L. Wong, "Second harmonic generation in periodically domain-inverted $Sr_xBa_{1-x}Nb_2O_6$ crystal plate," Appl. Phys. Lett. **70,** 1793-1795 (1997). Keywords: efficiency, ferroelectric poling, phasematch

Y. Y. Zhu, R. F. Xiao, J. S. Fu, G. K. L. Wong, and N. Ming, "Second-harmonic generation in quasi-periodically domain-inverted $Sr_{0.6}Ba_{0.4}Nb_2O_6$ optical superlattices," Opt. Lett. **22,** 1382-1384 (1997). Keywords: ferroelectric poling, quasiphasematch, Sellmeier.

$Sr_2Be_2B_2O_7$ (SBBO):

C. Chen, Y. Wang, Y. Xia, B. Wu, D. Tang, K. Wu, Z. Wenrong, L. Yu, and L. Mei, "New development of nonlinear optical crystals for the ultraviolet region with moleculr engineering approach," J. Appl. Phys. **77,** 2268-2272 (1995). Keyword: d_{eff}

SrB_4O_7 (Strontium tetraborate):

Y. S. Oseledchik, A. L. Prosvirnin, A. I. Pisarevskiy, V. V. Starshenko, V. V. Osadchuk, S. P. Belokrys, N. V. Svitanko, A. S. Korol, S. A. Krikunov, A. F. Selevich, "New nonlinear optical crystals: strontium and lead tetraborate," Opt. Materials **4,** 669-674 (1995). Keywords: crystal growth, crystal structure, damage, d_{eff}, d_{ij}, Sellmeier, transmission

F. Pan, G. Shen, R. Wang, X. Wang, D. Shen, "Growth, characterization and nonlinear optical properties of SrB_4O_7 crystals," J. Cryst. Growth **241,** 108-114 (2002). Keywords: crystal growth, crystal structure, efficiency, Sellmeier, sum-frequency, transmission

V. Petrov, F. Noack, D. Shen, F. Pan, G. Shen, X. Wang, R. Komatsu, and V. Alex, "Application of the nonlinear crystal SrB_4O_7 for ultrafast diagnostics converting to wavelengths as short as 125 nm," Opt. Lett. **29,** 373-375 (2004). Keywords: d_{ij}, efficiency, femtosecond, sum-frequency, transmission

$SrLaGa_3O_7$:

Z. Burshtein, Y. Shimony, I. Levy, A. M. Lejus, J. M. Benitez, and F. Mougel, "Refractive-index studies in $Ca_2Ga_2SiO_7$ and $SrLaGa_3O_7$ melilite-type compounds," J. Opt. Soc. Am. B **13,** 1941 (1996). Keywords: n(T), Sellmeier

$TmAl_3(BO_3)_4$ (TAB):

G. Jia, C. Tu, J. Li, Z. Zhu, Z. You, Y. Wang, and B. Wu, "Growth and thermal and spectral properties of a new nonlinear optical crystal $TmAl_3(BO_3)_4$," Cryst. Growth Design **5,** 949-952 (2005). Keywords: crystal growth, crystal structure, sum-frequency, thermal expansion, transmission

Te:

V.A. Gorobets, V. O. Petukhov, S. Ya. Tochitskii, and V. V. Churakov, "Studies of nonlinear optical characteristics of IR crystals for frequency conversion of TEA-CO_2 laser radiation," J. Opt. Tech. **66,** 53-57 (1999). Keywords: damage, d_{eff}, efficiency, sum-frequency, transmission

T. Yamauchi, N. Kikuzawa, and E. Minehara, "Second harmonic generation in Te crystal using free electron laser," Jpn. J. Appl. Phys. **41,** 6360-6363 (2002). Keywords: efficiency, femtosecond, phasematch, sum-frequency

Tl_3AsSe_3 (TAS):

R. C. Y. Auyeung, D. M. Zielke, and B. J. Feldman, "Multiple harmonic conversion of pulsed CO_2 laser radiation in Tl_3AsSe_3," Appl. Phys. B **48,** 293-297 (1989). Keywords: acceptance angle, efficiency

M. D. Ewbank, P. R. Newman, N. L. Mota, S. M. Lee, W. L. Wolfe, A. G. DeBell, and W. A. Harrison, "The temperature dependence of optical and mechanical properties of Tl_3AsSe_3," J. Appl. Phys. **51,** 3848-3852 (1980). Keywords: n(T), Sellmeier

J. D. Feichtner and G. W. Roland, "Optical properties of a new nonlinear optical material: Tl_3AsSe_3," Appl. Opt. **11,** 993-998 (1972). Keywords: damage, d_{eff}, Sellmeier, transmission

V.A. Gorobets, V. O. Petukhov, S. Ya. Tochitskii, and V. V. Churakov, "Studies of nonlinear optical characteristics of IR crystals for frequency conversion of TEA-CO_2 laser radiation," J. Opt. Tech. **66,** 53-57 (1999). Keywords: damage, d_{eff}, efficiency, sum-frequency, transmission

H. Kildal and G. W. Iseler, "Laser-induced surface damage of infrared nonlinear materials," Appl. Opt. **15,** 3062-3065 (1976). Keywords: damage

R. L. Pastel, "Intracavity doubling of a CO_2 TEA laser with thallium-arsenic-selenide cryatal," Appl. Opt. **26,** 1574-1576 (1987). Keywords: efficiency, sum-frequency

D. R. Suhre, "Efficient second-harmonic generation in Tl_3AsSe_3 using focussed CO_2 laser radiation," Appl. Phys. B **52,** 367-370 (1991). Keywords: acceptance angle, damage, d_{eff}, efficiency

D. R. Suhre, L. H. Taylor, "Six-watt mid-infrared laser using harmonic generation with Tl_3AsSe_3," Appl. Phys. B **63,** 225-228 (1996). Keywords: damage, efficiency

Tl_4HgI_6:

K. I. Avdienko, D. V. Badikov, V. V. Badikov, V. I. Chizhikov, V. L. Panyutin, G. S. Shevyrdyaeva, S. I. Scherbakov, and E. S. Scherbakova, "Optical properties of thallium mercury iodide," Opt. Mater. **23,** 569-573 (2003). Keywords: crystal growth, phasematch, Sellmeier, transmission

$YAl_3(BO_3)_4$ (YAB):

A. Brenier, "Tunable coherent infrared generation near 2.5 μm from self-frequency mixing in $YAl_3(BO_3)_4:Nd^{3+}$," Appl. Opt. **43,** 6007-6010 (2004). Keywords: acceptance angle, difference-frequency, efficiency, Sellmeier

P. Dekker and J. M. Dawes, "Characterization of nonlinear conversion and crystal quality in Nd- and Yb-doped YAB," Opt. Exp. **12,** 5922-5930 (2004). Keywords: acceptance angle, efficiency, sum-frequency

D. Jaque, J. Capmany, J. Rams, and J. G. Sole, "Effects of pump heating on laser and spectroscopic properties of the Nd:[$YAl_3(BO_3)_4$] self-frequency-doubling laser," J. Appl. Phys. **87,** 1042-1048 (2000). Keywords: phasematch, Sellmeier, sum-frequency, temperature-bandwidth, temperature tuning

H. Jiang, J. Li, J. Wang, X.-B. Hu, H. Liu, B. Teng, C.-Q. Zhang, P. Dekker, and P. Wang, "Growth of Yb:$YAl_3(BO_3)_4$ crystals and their optical and self-frequency-doubling properties," J. Crystal Growth **233,** 248-252 (2001). Keywords: crystal growth, Sellmeier, sum-frequency, transmission

C. Tu, Y. Huang, M. Qiu, and Z. Luo, "The growth of $Nd^{3+}:Gd_xY_{1-x}Al_3(BO_3)_4$ crystals," J. Crystal Growth **206,** 249-251 (1999). Keywords: crystal growth, transmission

$YCa_4O(BO_3)_3$ (YCOB):

J. J. Adams, C. A. Ebbers, K. I. Schaffers, and S. A. Payne, "Type I frequency doubling at 1064 nm in $LaCa_4O(BO_3)_3$ (LaCOB), $GdCa_4O(BO_3)_3$ (GdCOB), and $YCa_4O(BO_3)_3$ (YCOB)," OSA TOPS **50,** 615-621 (2001). Keywords: acceptance angle, crystal growth, d_{eff}, phasematch, sum-frequency, temperature-bandwidth

G. Aka, F. Mougel, D. Pelenc, B. Ferrand, and D. Vivien, "Comparative evaluation of GdCOB and YCOB nonlinear-optical properties, in principal and out of principal plane configurations, for the 1064 nm Nd:YAG laser frequency conversion," Proc. SPIE **3928,** 108-114 (2000). Keywords: acceptance angle, d_{eff}, d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, transmission, walkoff angle

G. Aka, E. Reino, P. Loiseau, D. Vivien, B. Ferrand, L. Fulbert, D. Pelenc, G. Lucas-Leclin, and P. Georges, "$Ca_4REO(BO_3)_3$ crystals for green and blue microchip laser generation: from crystal growth to laser and nonlinear optical properties," Opt. Mater. **26,** 431-436 (2004). Keywords: efficiency, sum-frequency

P. B. W. Burmester, T. Kellner, K. Petermann, G. Huber, R. Uecker, and P. Reiche, "Type-I non-critically phase-matched second-harmonic generation in $Gd_{1-x}Y_xCa_4O(BO_3)_3$," Appl. Phys. B **68,** 1143-1146 (1999). Keywords: acceptance angle, compositional tuning, crystal growth, phasematch, temperature bandwidth, temperature tuning

B. H. T. Chai, "Advances in bulk inorganic nonlinear optical materials," Optics & Photonics News, Jan. 1999, p. 31. Keywords: crystal structure, efficiency

C. Chen, Z. Shao, J. Jiang, J. Wei, J. Lin, J. Wang, N. Ye, J. Lv, B. Wu, M. Jiang, M. Yoshimura, Y. Mori, and T. Sasaki, "Determination of the nonlinear optical coefficients of $YCa_4O(BO_3)_3$ crystal," J. Opt. Soc. Am. B **17,** 566-571 (2000). Keywords: d_{eff}, d_{ij}, phasematch

X. Chen, M. Huang, Z. Luo, and Y. Huang, "Determination of the optimum phase-matching directions for the self-frequency conversion of Nd:GdCOB and Nd:YCOB crystals," Opt. Comm. **196,** 299-307 (2001). Keywords: d_{eff}, d_{ij}, phasematch, walkoff angle

C. Du, Z. Wang, J. Liu, X. Xu, K. Fu, G. Xu, J. Wang, and Z. Shao, "Investigation of intracavity third-harmonic generation at 1.06 μm in $YCa_4O(BO_3)_3$ crystals," Appl. Phys. B **74,** 125-127 (2002). Keywords: efficiency, phasematch, sum-frequency

J. M. Eichenholz, D. A. Hammons, L. Shah, Q. Ye, R. E. Peale, M. Richardson, and B. H. T. Chai, "Diode-pumped self-frequency doubling in a Nd^{3+}:$YCa_4O(BO_3)_3$ laser," Appl. Phys. Lett. **74,** 1954-1956 (1999). Keywords: efficiency

Y. Fei, B. H. T. Chai, C. A. Ebbers, Z. M. Liao, K. I. Schaffers, and P. Thelin, "Large-aperture YCOB crystal growth for frequency conversion in the high average power laser system," J. Cryst. Growth **290,** 301-306 (2006). Keywords: acceptance angle, bandwidth, crystal growth, efficiency, nanosecond, sum-frequency, temperature-bandwidth

H. Furuya, H. Nakao, I. Yamada, Y. F. Ruan, Y. K. Yap, M. Yoshimura, Y. Mori, and T. Sasaki, "Alleviation of photoinduced damage in $Gd_xY_{1-x}Ca_4O(BO_3)_3$ at elevated crystal temperature for noncritically phase-matched 355-nm generation," Opt. Lett. **25,** 1588-1590 (2000). Keywords: damage, efficiency, phasematch, sum-frequency, temperature-bandwidth, temperature tuning

H. Furuya, M. Yoshimura, T. Kobayashi, K. Murase, Y. Mori, and T. Sasaki, "Crystal growth and characterization of $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," J. Crystal Growth **198/199,** 560-563 (1999). Keywords: compositional tuning, crystal growth, d_{eff}, transmission

S. Hatano, M. Yoshimura, Y. Mori, T. Sasaki, and S. Ito, "Monolithic wavelength converter for ultraviolet light by use of a $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," Appl. Opt. **44,** 7651-7658 (2005). Keywords: acceptance angle, cw, efficiency, phasematch, sum-frequency, temperature-bandwidth, walkoff angle

M. Iwai, T. Kobayashi, H. Furuya, Y. Mori, and T. Sasaki, "Crystal growth and optical characterization of rare-earth (Re) calcium oxyborate $ReCa_4O(BO_3)_3$ (Re=Y or Gd) as new nonlinear optical material," Jpn. J. Appl. Phys. **36,** L276-L279 (1997). Keywords: acceptance angle, d_{eff}, efficiency, phasematch, Sellmeier, sum-frequency, temperature-bandwidth, transmission.

W. K. Jang, Q. Ye, J. Eichenholz, M. C. Richardson, B. H. T. Chai, "Second harmonic generation in Yb doped $YCa_4O(BO_3)_3$," Opt. Comm. **155,** 332-334 (1998). Keywords: efficiency, sum-frequency

W. K. Jang, Q. Ye, D. Hammons, J. Eichenholz, J. Lim, M. Richardson, B. H. T. Chai, and E. Van Stryland, "Improved second-harmonic generation by selective Yb ion doping in a new nonlinear optical crystal $YCa_4O(BO_3)_3$," IEEE J. Quant. Electron. **35,** 1826-1833 (1999). Keywords: compositional tuning, crystal growth, crystal structure, efficiency, phasematch, sum-frequency, transmission

S. Hatano, M. Yoshimura, Y. Mori, T. Sasaki, and S. Ito, "Monolithic wavelength converter for ultraviolet light by use of a $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," Appl. Opt. **44,** 7651-7658 (2005). Keywords: acceptance angle, cw, efficiency, phasematch, sum-frequency, temperature-bandwidth, walkoff angle

J. Liu, C. Wang, S. Zhang, C. Du, J. Lu, J. Wang, H. Chen, Z. Shao, and M. Jiang, "Investigation on intracavity second-harmonic generation at 1.06 μm in $YCa_4O(BO_3)_3$ by using an end-pumped Nd:YVO_4 laser," Opt. Comm. **182,** 187-191 (2000). Keywords: d_{eff}, efficiency, phasematch, sum-frequency, temperature-bandwidth, transmission

A. Major, J. S. Aitchison, P. W. E. Smith, F. Druon, P. Georges, B. Viana, G. P. Aka, "Z-scan measurements of the nonlinear refractive indices of novel Yb-doped laser crystal hosts," Appl. Phys. B **80,** 199-201 (2005). Keywords: n_2

P. Segonds, B. Boulanger, J.-P. Feve, B. Menaert, J. Zaccaro, G. Aka, and D. Pelenc, "Linear and nonlinear optical properties of the monoclinic $Ca_4YO(BO_3)_3$ crystal," J. Opt. Soc. Am. B **21,** 765-769 (2004). Keywords: phasematch, Sellmeier, sum-frequency, transmission

P. Segonds, B. Boulanger, B. Menaert, J. Zaccaro, J. P. Salvestrini, M. D. Fontana, R. Moncorge, F. Poree, G. Gadret, J. Mangin, A. Brenier, G. Boulon, G. Aka, D. Pelenc, "Optical characterization of $YCa_4O(BO_3)_3$ crystals," Opt. Mat. **29,** 975-982 (2007). Keywords: crystal growth, crystal structure, damage, flourescence, phasematch, Sellmeier, sum-frequency, temperature tuning, thermal expansion, transmission

Z. Shao, J. Lu, Z. Wang, J. Wang, and M. Jiang, "Anisotropic properties of Nd:ReCOB (Re=Y, Gd): A low symmetry self-frequency doubling crystal," Prog. Crystal Growth and Characterization of Materials **40,** 63-73 (2000). Keywords: d_{eff}, d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency

P. Tzankov and V. Petrov, "Effective second-order nonlinearity in acentric optical crystals with low symmetry," Appl. Opt. **44,** 6971-6985 (2005). Keywords: d_{ij}

C. Wang, H. Zhang, X. Meng, L. Zhu, Y. T. Chow, X. Liu, R. Cheng, H. Yang, S. Zhang, and L. Sun, "Thermal, spectroscopic properties and laser performance at 1.06 and 1.33 μm of Nd:$Ca_4YO(BO_3)_3$ and Nd:$Ca_4GdO(BO_3)_3$ crystals," J. Crystal Growth **220,** 114-120 (2000). Keywords: crystal growth, flourescence, thermal expansion

J. Wang, Z. Shao, J. Wei, X. Hu, Y. Liu, B. Gong, G. Li, J. Lu, M. Guo, and M. Jiang, "Research on growth and self-frequency doubling of Nd:ReCOB (Re=Y or Gd) crystals," Prog. in Crystal Growth and Characterization of Materials **40,** 17-31 (2000). Keywords: crystal growth, crystal structure, d_{eff}, d_{ij}, phasematch, Sellmeier, sum-frequency

Z. Wang, K. Fu, X. Xu, X. Sun, H. Jiang, R. Song, J. Liu, J. Wang, Y. Liu, J. Wei, and Z. Shao, "The optimum configuration for the third-harmonic generation of 1.064 μm in a YCOB crystal," Appl. Phys. B **72,** 839-842 (2001). Keywords: d_{eff}, d_{ij}, phasematch, sum-frequency

Z. Wang, X. Xu, K. Fu, R. Song, J. Wang, J. Wei, Y. Liu, and Z. Shao, "Non-critical phase matching of $Gd_xY_{1-x}Ca_4O(BO_3)_3$(Gd_xY_{1-x}COB) crystal," Solid State Comm. **120,** 397-400 (2001). Keywords: compositional tuning, crystal growth, damage, efficiency, phasematch, picosecond, sum-frequency

Q. Ye, L. Shah, J. Eichenholz, D. Hammons, R. Peale, M. Richardson, A. Chin, and B. H. T. Chai, "Investigation of diode-pumped, self-frequency doubled RGB lasers from Nd:YCOB crystals," Opt. Comm. **164,** 33-37 (1999). Keywords: efficiency, flourescence, sum-frequency, thermal conductivity

M. Yoshimura, H. Furuya, T. Kobayashi, K. Murase, Y. Mori, and T. Sasaki, "Noncritically phase-matched frequency conversion in $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," Opt. Lett. **24,** 193-195 (1999). Keywords: crystal structure, d_{eff}, efficiency, phasematch

S. Zhang, Z. Cheng, S. Zhang, J. Han, L. Sun, and H. Chen, "Growth and noncritical phase-matching third-harmonic-generation of $Gd_xY_{1-x}Ca_4O(BO_3)_3$ crystal," J. Crystal Growth **231,** 415-418 (2000). Keywords: compositional tuning, crystal growth, crystal structure, efficiency, phasematch, sum-frequency, transmission

$Y(HCOO)_3 \bullet 2H2O$:

L. Bohaty, L. Bayarjargal, and P. Becker, "Linear and nonlinear optical properties of yttrium formate dihydrate, $Y(HCOO)_3\ 2H_2O$," Appl. Phys. B (2006). Keywords: d_{ij}, phasematch, Sellmeier, transmission

Zn_3BPO_7 (ZBP):

Y. Wu, G. Wang, P. Fu, X. Liang, Z. Xu, and C. Chen, "A new nonlinear optical crystal β-Zn_3BPO_7," J. Crystal Growth **229,** 205-207 (2001). Keywords: crystal growth, crystal structure, d_{ij}, Sellmeier, transmission

$ZnCd(SCN)_4$ zinc cadmium thiocyanate (ZCTC):

G. H. Zhang, D. Xu, Y. T. Chow, M. K. Lu, X. Q. Wang, D. R. Yuan, P. L. Chu, Q. Ren, and X. G. Xu, "Violet light second harmonic generation and optical properties of the nonlinear optical organometallic $ZnCd(SCN)_4$ crystal," Opt. Comm. **233,** 425-430 (2004). Keywords: acceptance angle, crystal structure, cw, d_{eff}, d_{ij}, efficiency, phasematch, Sellmeier, sum-frequency, thermal expansion, transmission, walkoff angle

$ZnGeP_2$ (ZGP):

Yu. M. Andreev, S. D. Velikanov, A. S. Yerutin, A. F. Zapol'skii, D. V. Konkin, S. N. Mishkin, S. V. Smirnov, Yu. N. Frolov, and V. V. Shchurov, "Second harmonic generation from DF laser radiation in $ZnGeP_2$," Sov. J. Quant. Electron. **22,** 1035 (1992). Keywords: efficiency, acceptance angle

G. Arisholm, E. Lippert, G. Rustad, and K. Stenersen, "Efficient conversion from 1 to 2 μm by a KTP-based ring optical parametric oscillator," Opt. Lett. **27,** 1336-1338 (2002). Keywords: efficiency, M^2, nanosecond, OPO

G. Arisholm, E. Lippert, G. Rustad, and K. Stenersen, "Effect of resonator length on a doubly resonant optical parametric oscillator pumped by a multilongitudinal-mode beam," Opt. Lett. **25,** 1654-1656 (2000). Keywords: efficiency, OPO

N. P. Barnes, K. E. Murray, M. G. Jani, P. G. Schunemann, and T. M. Pollak, "$ZnGeP_2$ parametric amplifier," J. Opt. Soc. Am. B **15,** 232-238 (1998). Keywords: difference-frequency, phasematch, two-photon absorption

G. C. Bhar and G. Ghosh, "Temperature-dependent Sellmeier coefficients and coherence lengths for some chalcopyrite crystals," J. Opt. Soc. Am. **69,** 730-733 (1979). Keywords: dn/dT

P. A. Budni, L. A. Pomeranz, M. L. Lemons, C. A. Miller, J. R. Mosto, and E. P. Chicklis, "Efficient mid-infrared laser using 1.9-μm-pumped Ho:YAG and $ZnGeP_2$ optical parametric oscillators," J. Opt. Soc. Am. B **17,** 723-728 (2000). Keywords: bandwidth, efficiency, M^2, OPO

H. P. Chou, R. C. Slater, and Y. Wang, "High-energy, fourth-harmonic generation using CO_2 lasers," Appl. Phys. B **66,** 555-559 (1998). Keywords: efficiency, sum-frequency

S. Das, G. C. Bhar, S. Gangopadhyay, and C. Ghosh, "Linear and nonlinear optical properties of $ZnGeP_2$ crystal for infrared laser device applications: revisited," Appl. Opt. **42,** 4335-4340 (2003). Keywords: phasematch, Sellmeier, transmission

D. W. Fischer and M. C. Ohmer, "Temperature dependence of $ZnGeP_2$ birefringence using polarized light interference," J. Appl. Phys. **81,** 425-431 (1997). Keywords: temperature tuning

F. Ganikhanov, T. Caughey, and K. L. Vodopyanov, "Narrow-linewidth middle-infrared $ZnGeP_2$ optical parametric oscillator," J. Opt. Soc. Am. B **18,** 818-822 (2001). Keywords: bandwidth, efficiency, OPO, phasematch, transmission

G. Ghosh, "Sellmeier coefficients for the birefringence and refractive indices of $ZnGeP_2$ nonlinear crystal at different temperatures," Appl. Opt. **37,** 1205-1212 (1998). Keywords: phasematch, Sellmeier

N. C. Giles, L. Bai, M. M. Chirila, N. Y. Garces, K. T. Stevens, P. G. Schunemann, S. D. Stezler, and T. M. Pollak, "Infrared absorption bands associated with native defects in $ZnGeP_2$," J. Appl. Phys. **93,** 8975-8981 (2003). Keywords: transmission

V.A. Gorobets, V. O. Petukhov, S. Ya. Tochitskii, and V. V. Churakov, "Studies of nonlinear optical characteristics of IR crystals for frequency conversion of TEA-CO_2 laser radiation," J. Opt. Tech. **66,** 53-57 (1999). Keywords: damage, d_{eff}, efficiency, sum-frequency, transmission

S. Haidar, K. Miyamoto, and H. Ito, "Generation of tunable mid-IR (5.5-9.3 μm) from a 2-μm pumped $ZnGeP_2$ optical parametric oscillator," Opt. Comm. **241,** 173-178 (2004). Keywords: efficiency, nanosecond, OPO, phasematch

K. Kato, "Second-harmonic and sum-frequency generation in $ZnGeP_2$," Appl. Opt. **36,** 2506-2510 (1997). Keywords: d_{ij}, phasematch, Sellmeier, sum-frequency, temperature-bandwidth

P. Kumbhakar, T. Kobayashi, and G. C. Bhar, "Sellmeier dispersion for phase-matched terahertz generation in $ZnGeP_2$," Appl. Opt. **43,** 3324-3328 (2004). Keywords: difference-frequency, phasematch, Sellmeier, THz

K. Miyamoto and H. Ito, "Wavelength-agile mid-infrared (5-10 μm) generation using a galvano-controlled $KTiOPO_4$ optical parametric oscillator," Opt. Lett. **32,** 274-276 (2007). Keywords: efficiency, M^2, OPO, pump tuning

Ab. F. Nieuwenhuis, C. J. Lee, P. J. M. van der Slot, P. Gross, and K.-J. Boller, "Mid-infrared ZGP optical parametric oscillator directly pumped by a lamp-pumped, Q-switched Cr, Tm, Ho:YAG laser," SPIE **6455,** 645518-1-9 (2007). Keywords: efficiency, OPO, nanosecond, phasematch

R. D. Peterson, K. L. Schepler, J. L. Brown, and P. G. Schunemann, "Damage properties of $ZnGeP_2$ at 2 μm," J. Opt. Soc. Am. B **12,** 2142-2146 (1995). Keywords: damage, transmission

V. Petrov, F. Rotermund, F. Noack, and P. Schunemann, "Femtosecond parametric generation in $ZnGeP_2$," Opt. Lett. **24,** 414-416 (1999). Keywords: damage, efficiency, femtosecond, group velocity, OPG, phasematch, transmission

P. B. Phua, K. S. Lai, R. F. Wu, and T. C. Chong, "Coupled tandem optical parametric oscillator (OPO): an OPO within an OPO," Opt. Lett. **23,** 1262-1264 (1998). Keywords: efficiency, OPO, phasematch

P. B. Phua, K. S. Lai, R. F. Wu, and T. C. Chong, "High-efficiency mid-infrared $ZnGeP_2$ optical parametric oscillator in a multimode-pumped tandem optical parametric oscillator," Appl. Opt. **38,** 563-565 (1999). Keywords: bandwidth, efficiency, OPO, phasematch, pump tuning

W. Shi and Y. J. Ding, "Continuously tunable and coherent terahertz radiation by means of phase-matched difference-frequency generation in zinc germanium phosphide," Appl. Phys. Lett. **83,** 848-850 (2003). Keywords: d_{eff}, difference-frequency, efficiency, nanosecond, phasematch, THz

W. Shi, Y. J. Ding, and P. G. Schunemann, "Coherent terahertz waves based on difference-frequency generation in an annealed zinc-germanium phosphide crystal: improvements on tuning ranges and peak powers," Opt. Comm. **233,** 183-189 (2004). Keywords: difference-frequency, efficiency, nanosecond, phasematch, THz, transmission

Y. Shimony, O. Raz, G. Kimmel, and M. P. Dariel, "On defects in tetragonal $ZnGeP_2$ crystals," Opt. Mat. **13,** 101-109 (1999). Keywords: crystal growth, crystal structure, transmission

M. W. Todd, R. A. Provencal, T. G. Owano, B. A. Paldus, A. Kachanov, K. L. Vodopyanov, M. Hunter, S. L. Coy, J. I. Steinfeld, and J. T. Arnold, "Application of mid-infrared cavity-ringdown spectroscopy to trace explosives vapor detection using a broadly tunable (6-8 μm) optical parametric oscillator," Appl. Phys. B **75,** 367-376 (2002). Keywords: bandwidth, efficiency, M^2, nanosecond, OPO, phasematch

G. A. Verozubova, A. I. Gribenyukov, V. V. Korotkova, O. Semchinova, D. Uffmann, "Synthesis and growth of $ZnGeP_2$ crystals for nonlinear optical applications," J. Cryst. Growth **213,** 334-339 (2000). Keywords: crystal growth, transmission

K. L. Vodopyanov, "Parametric generation of tunable infrared radiation in $ZnGeP_2$ and GaSe pumped at 3 μm," J. Opt. Soc. Am. B **10,** 1723-1729 (1993). Keywords: transmission, phasematch, efficiency

K. L. Vodopyanov, "Mid-infrared optical parametric generator with extra-wide (3 – 19 μm) tunability: applications for spectroscopy of two-dimensional electrons in quantum wells," J. Opt. Soc. Am. **16,** 1579-1586 (1999). Keywords: bandwidth, efficiency, OPG, phasematch, picosecond, two-photon absorption

K. L. Vodopyanov, F. Ganikhanov, J. P. Maffetone, I. Zwieback, and W. Ruderman, "$ZnGeP_2$ optical parametric oscillator with 3.8-12.4-μm tunability," Opt. Lett. **25,** 841-843 (2000). Keywords: bandwidth, damage, efficiency, M^2, OPO, phasematch, transmission

K. L. Vodopyanov and P. G. Schunemann, "Broadly tunable noncritically phase-matched $ZnGeP_2$ optical parametric oscillator with a 2-μJ pump threshold," Opt. Lett. **28,** 441-443 (2003). Keywords: bandwidth, d_{eff}, efficiency, M^2, nanosecond, OPO, pump tuning, transmission

K. T. Zawilski, S. D. Setzler, P. G. Schunemann, and T. M. Pollak, "Laser damage threshold of single crystal $ZnGeP_2$ at 2.05 μm," SPIE **5991,** 599104-1-13 (2005). Keywords: crystal growth, damage

K. T. Zawilski, S. D. Setzler, P. G. Schunemann, and T. M. Pollak, "Increasing the laser-induced damage threshold of single-crystal $ZnGeP_2$," J. Opt. Soc. Am. B **23,** 2310-2316 (2006). Keywords: damage

D. E. Zelmon, E. A. Hanning, and P. G. Schunemann, "Refractive-index measurements and Sellmeier coefficients for zinc germanium phosphide from 2 to 9 μm with implications for phase matching in optical frequency-conversion devices," J. Opt. Soc. Am. B **18,** 1307-1310 (2001). Keywords: phasematch, Sellmeier

ZnO:

G. Wang, G. K. L. Wong, and J. B. Ketterson, "Redetermination of second-order susceptibility of zinc oxide single crystals," Appl. Opt. **40,** 5436-5438 (2001). Keywords: d_{ij}, sum-frequency

K. H. Yang, J. R. Morris, P. L. Richards, and Y. R. Shen, "Phase-matched far-infrared generation by optical mixing of dye laser beams," Appl. Phys. Lett. **23,** 669-671 (1973). Keywords: difference-frequency, efficiency

ZnS:

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

K. H. Yang, J. R. Morris, P. L. Richards, and Y. R. Shen, "Phase-matched far-infrared generation by optical mixing of dye laser beams," Appl. Phys. Lett. **23,** 669-671 (1973). Keywords: difference-frequency, efficiency

ZnSe:

A. Gaur, D. K. Sharma, D. S. Ahlawat, and N. Singh, "Multiphoton photoconductivity and optical nonlinearities in ZnSe and CdSe direct band gap crystals," J. Opt. A: Pure Appl. Opt. **9,** 260-264 (2007). Keywords: two-photon absorption

R. Haidar, Ph. Kupecek, E. Rosencher, R. Triboulet, and Ph. Lemasson, "Quasi-phase-matched difference frequency generation (8-13 μm) in an isotropic semiconductor using total reflection," Appl. Phys. Lett. **82,** 1167-1169 (2003). Keywords: difference-frequency, efficiency, nanosecond, quasiphasematch

A. Mustelier, E. Rosencher, Ph. Kupecek, A. Godard, M. Baudrier, M. Lefebvre, M. Poulat, G. Mennerat, C. Pasquer, and Ph. Lemasson, "Midinfrared difference frequency generation in quasi-phase matched diffusion bonded ZnSe plates," Appl. Phys. Lett. **84,** 4424-4426 (2004). Keywords: crystal growth, difference-frequency, efficiency, nanosecond, quasiphasematch, transmission

I. Shoji, T. Kondo, A. Kitamoto, M. Shirane, and R. Ito, "Absolute scale of second-order nonlinear-optical coefficients," J. Opt. Soc. Am. B **14,** 2268-2294 (1997). Keywords: d_{ij}

X. Wu, X. Chen, F. Zhao, T. Jia, and G. Wang, "Terahertz radiation mechanisms in ZnSe at femtosecond laser pulse excitation," Jap. J. Appl. Phys. **46,** 1497-1500 (2007). Keywords: femtosecond, THz

ZnTe:

T. Loffler, T. Hahn, M. Thomson, F. Jacob, and H. G. Roskos, "Large-area electro-optic ZnTe terahertz emitters," Opt. Exp. **13,** 5353-5362 (2005). Keywords: difference-frequency, efficiency, femtosecond, THz

Deuterated Zn tris thiourea sulphate (d-ZTS):

U. B. Ramabadran, A. L. McPherson, and D. E. Zelmon, "Optical properties of deuterated zinc tris thiourea sulphate," J. Appl. Phys. **76,** 1150-1154 (1994). Keywords: acceptance angle, d_{eff} , phasematch, Sellmeier, walkoff angle