

Worksheet # 2

Wednesday, April 10, 2024

Name

Questions (5 pts):

In the electric dipole approximation, $\exp(i\mathbf{k}\cdot\mathbf{r})$ in the matrix element M_{ba} is replaced by 1.

(a) For what region of the EM spectrum this approximation is not likely to work?

(b) For the visible wavelength region, how much more probable would electric dipole transition be as compared to magnetic dipole/electric quadrupole ones?