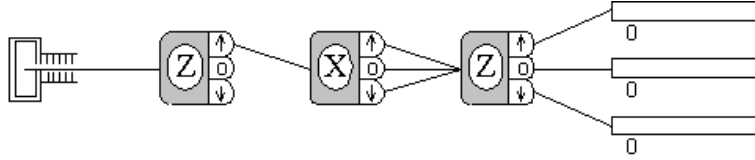**Spin-1 Interferometer**

1. Make an interferometer as shown:

Use <u>Random</u> as the initial state. Measure the relative probabilities after the final SG device. Do this for seven possible cases where one beam, a pair of beams, or all three beams from the middle SG device are used. Record your results in the experiment part of the worksheet table. Use the projection postulate to calculate and fill in the theory part of the table and compare to the experiment.

Spin-1 Interferometer

Beams	Experiment			Theory		
	P(1)	P(0)	P(-1)	P(1)	P(0)	P(-1)
$|1\rangle_x$						
$|0\rangle_x$						
$|-1\rangle_x$						
$|1\rangle_x, |0\rangle_x$						
$|1\rangle_x, |-1\rangle_x$						
$|0\rangle_x, |-1\rangle_x$						
$|1\rangle_x, |0\rangle_x, |-1\rangle_x$						