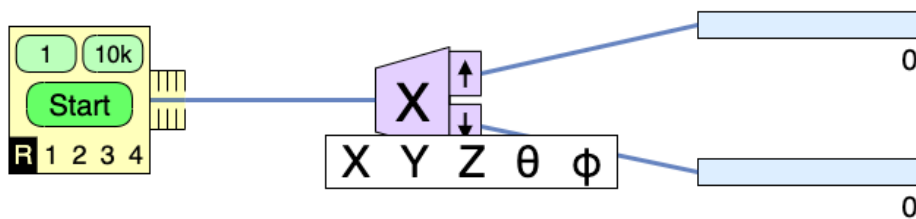


Getting Acquainted with the Stern Gerlach Experiment Simulation

1. Measure a single particle's z-component of spin S_z
 - a) The default experiment is to measure S_x so we need to change the orientation of the analyzer. Change the orientation of the analyzer by clicking on “X” label and selecting “Z”.



- b) To send 1 particle through the experiment, click on the box labeled “1” on the oven (the green box on the left). Each measurement result will either be $S_z = \frac{+\hbar}{2}$ or $S_z = \frac{-\hbar}{2}$. Do this several times.

Do you notice any patterns?

- c) Try sending 10,000 atoms through the experiment.
 - d) Try sending atoms continuously by pressing the “Start” button.

What are you noticing about these experiments?

2. Do some experimenting and determine the probability that a particle leaving the oven will end up in the top counter. How confident are you in your estimate?