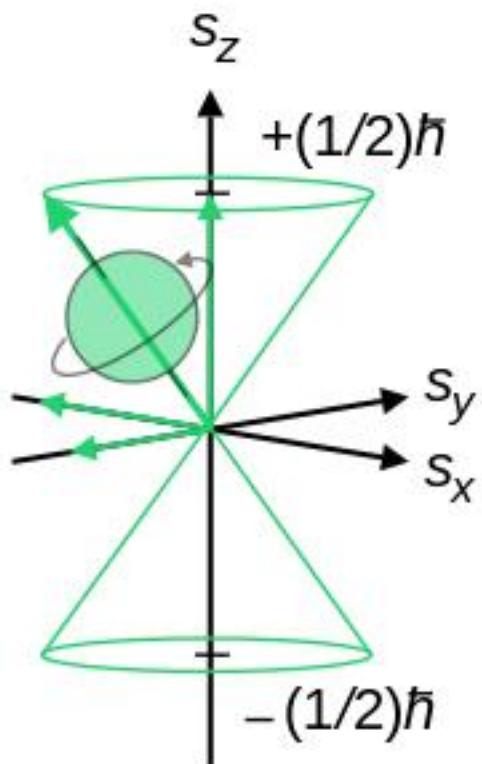
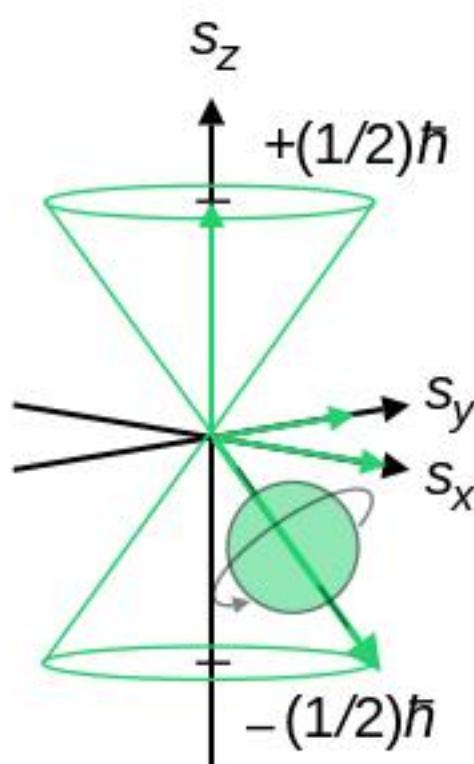


# Spin angular momentum (spin-1/2 particles)



$$|\uparrow\rangle \equiv \left| +\frac{1}{2} \right\rangle$$

spin-up



$$|\downarrow\rangle \equiv \left| -\frac{1}{2} \right\rangle$$

spin-down