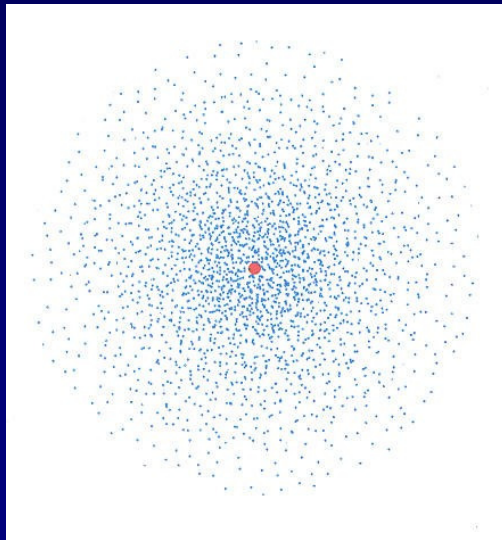# Probability Density of Electrons

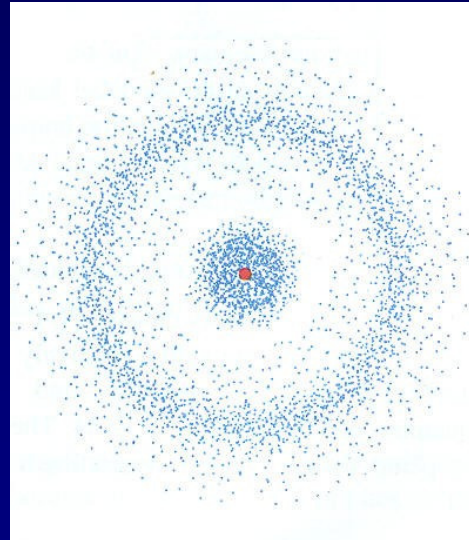Let's look at the angular momentum states of the hydrogen atom.

Probability density = Probability per unit volume = $|\psi_{nlm}|^2 \propto R_{nl}^2 Y_{lm}^2$.
The density of dots plotted below is proportional to $|\psi_{nlm}|^2$.
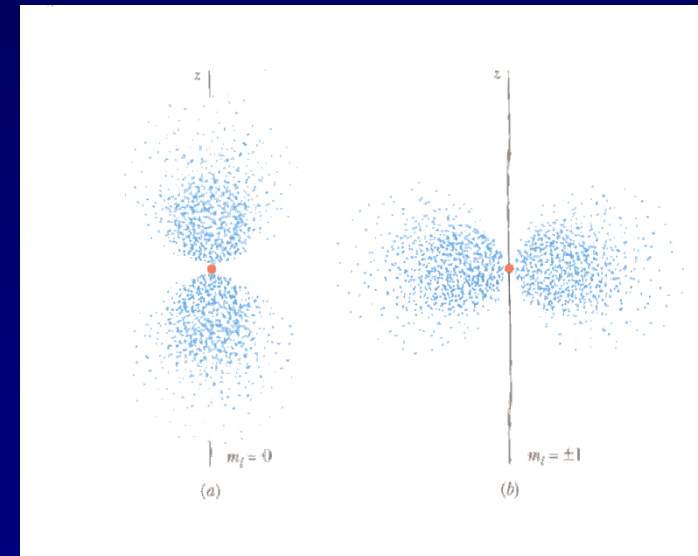
1s state	2s state	2p states

$$n,l,m = \quad 1,0,0 \qquad\qquad 2,0,0 \qquad\qquad 2,1,\{0,\pm1\}$$