

Why are these distributions important?

They govern the bonding and chemistry of atoms.

In particular, they determine the angles at which different atoms bond:
→ the structure of molecules & solids.

Historical Labeling of Orbitals

Angular momentum quantum

$$l = 0$$

$$l = 1$$

$$l = 2$$

$$l = 3$$

Notation from 19th century spectroscopy

s “sharp”

p “principle”

d “diffuse”

f “fundamental”