

Quantum Numbers

n = principal quantum number (size) (energy level) - 1, 2, 3, 4, 5, 6, 7

l - azimuthal quantum number (subshell) (orbital type) $s = 0$
 $p = 1$
 $d = 2$
 $f = 3$

m_l - magnetic quantum number
(specific orbitals within subshell)

s 0
 p -1, 0, +1
 d -2, -1, 0, +1, +2
 f -3, -2, -1, 0, +1, +2, +3

m_s = spin projection quantum number
(spin)

$+\frac{1}{2}$, $-\frac{1}{2}$
(up) (down)