

| Name | Symbol | Allowed Values | Important Properties |
|--------------------------|----------|----------------------------------|--|
| Principal quantum number | n | 1, 2, 3, 4, ... | Determines shell: energy of electron and distance of electron density from nucleus |
| Orbital quantum number | ℓ | $0 \leq \ell \leq (n-1)$ | Determines subshell: energy of electron and shape of electron-density distribution |
| Magnetic quantum number | m_ℓ | $-\ell \leq m_\ell \leq \ell$ | Determines orientation of electron-density distribution |
| Spin quantum number | m_s | $+\frac{1}{2}$ or $-\frac{1}{2}$ | Orientation (up or down) of electron "spin" or magnetic field |