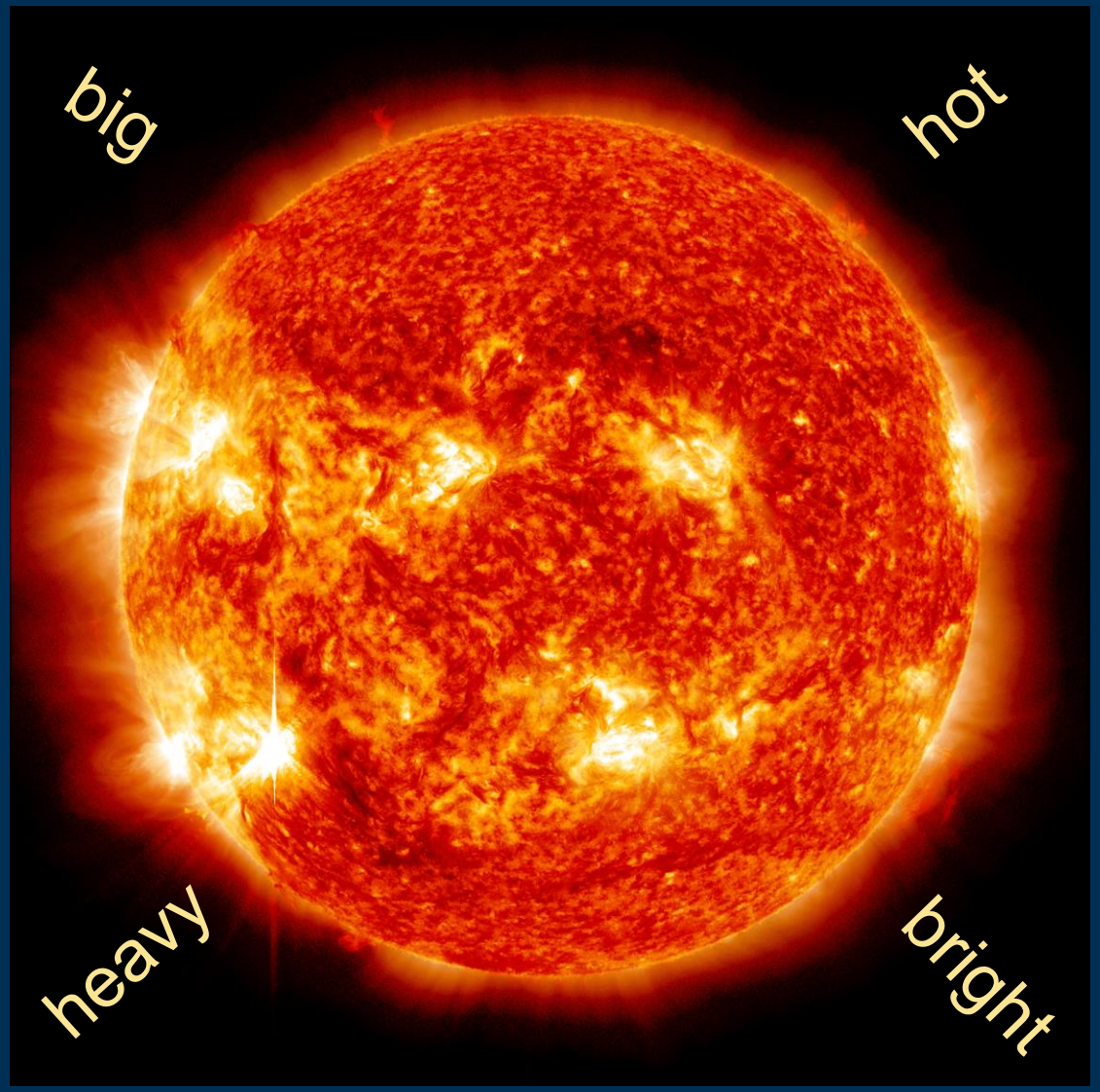
UK Atomic Energy Authority

Teachers' Pack

Magnificent Magnets & Cool Currents

The Sun

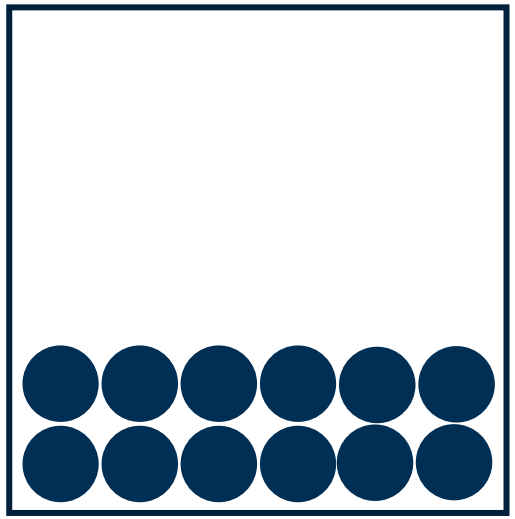
UK Atomic Energy Authority



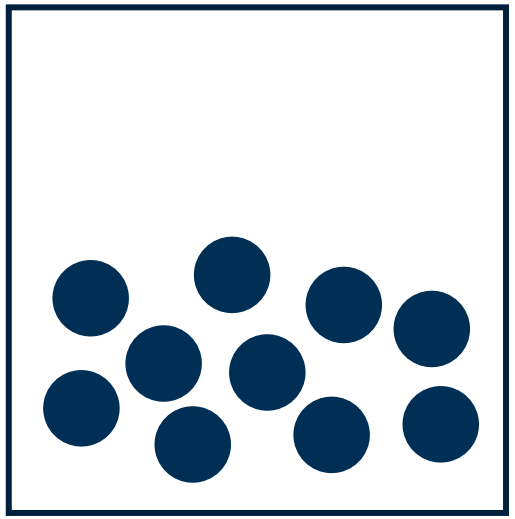
… far away

States of matter

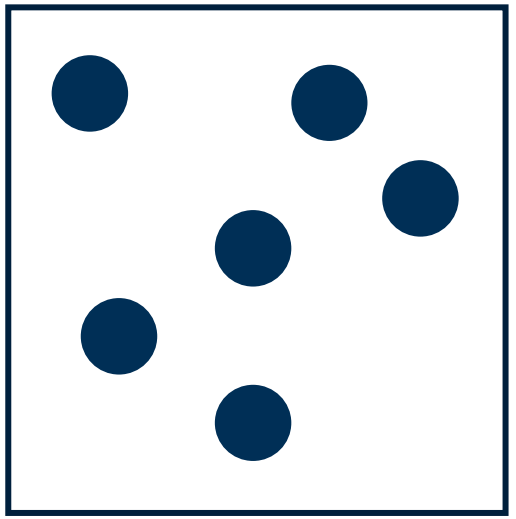
UK Atomic Energy Authority



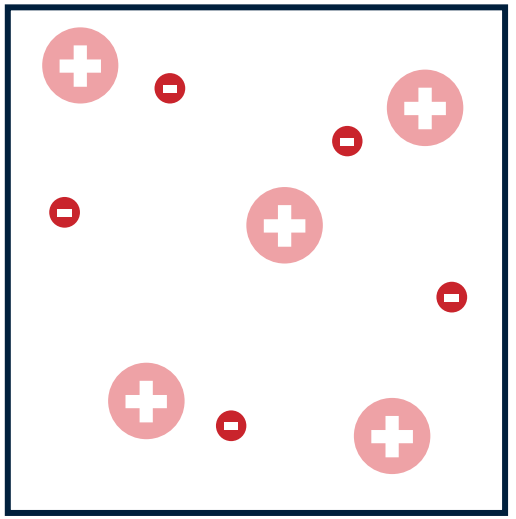
solid



liquid

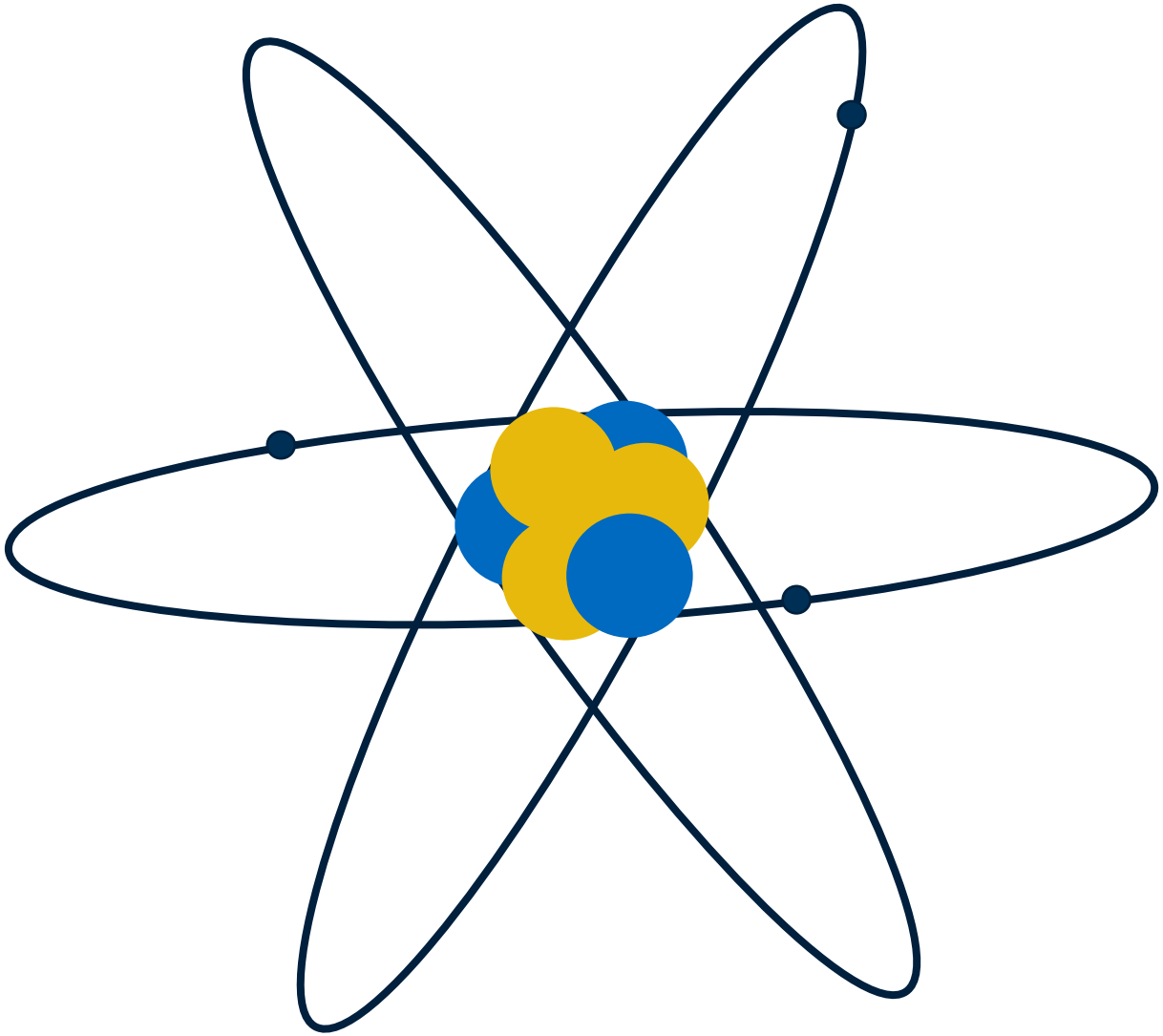


gas



plasma

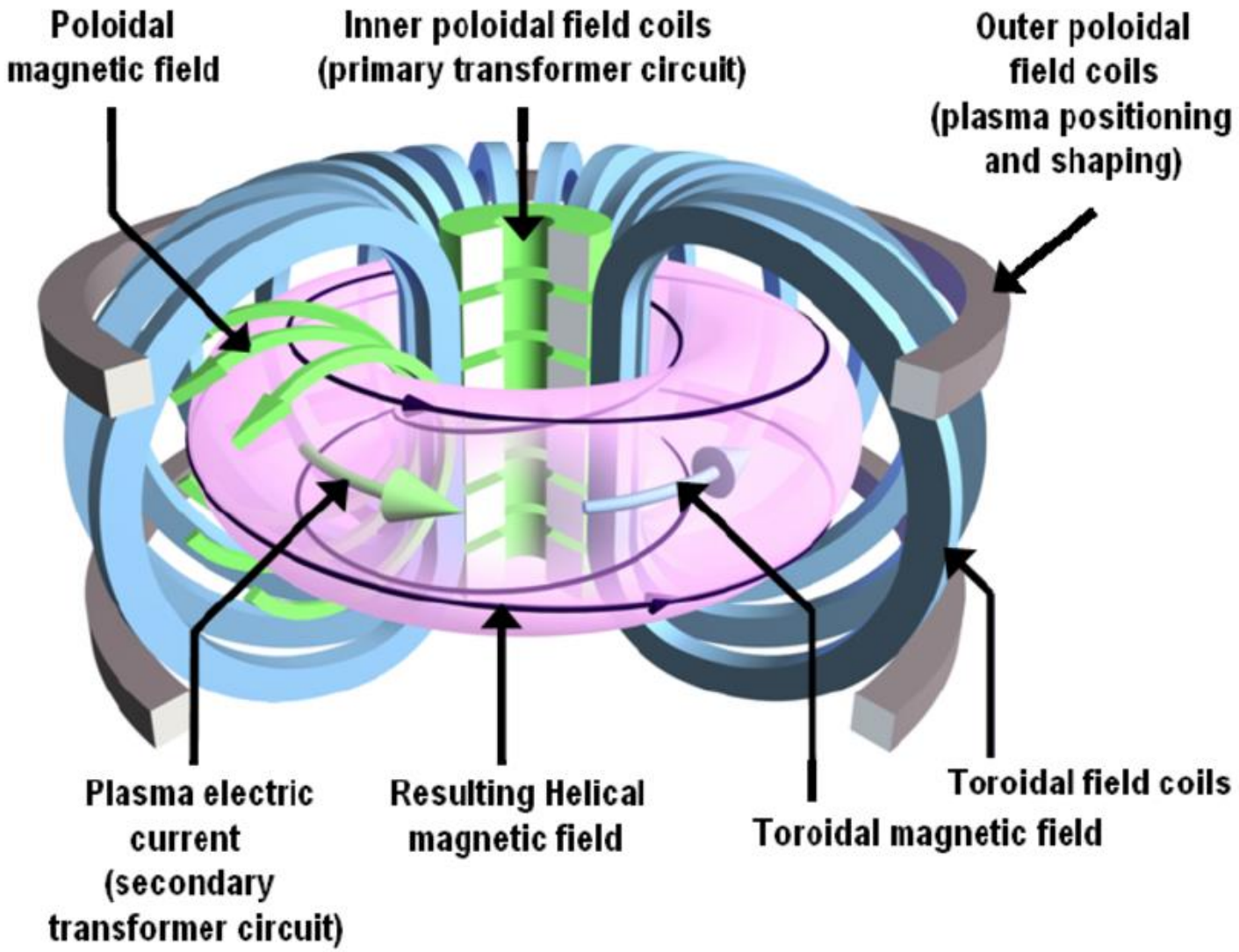
An atom



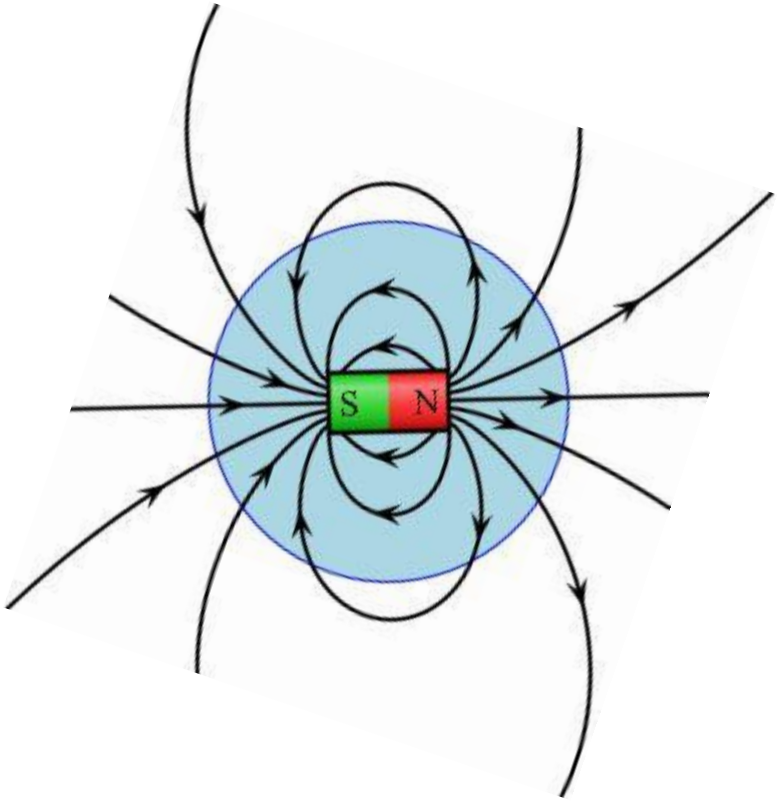
electrons

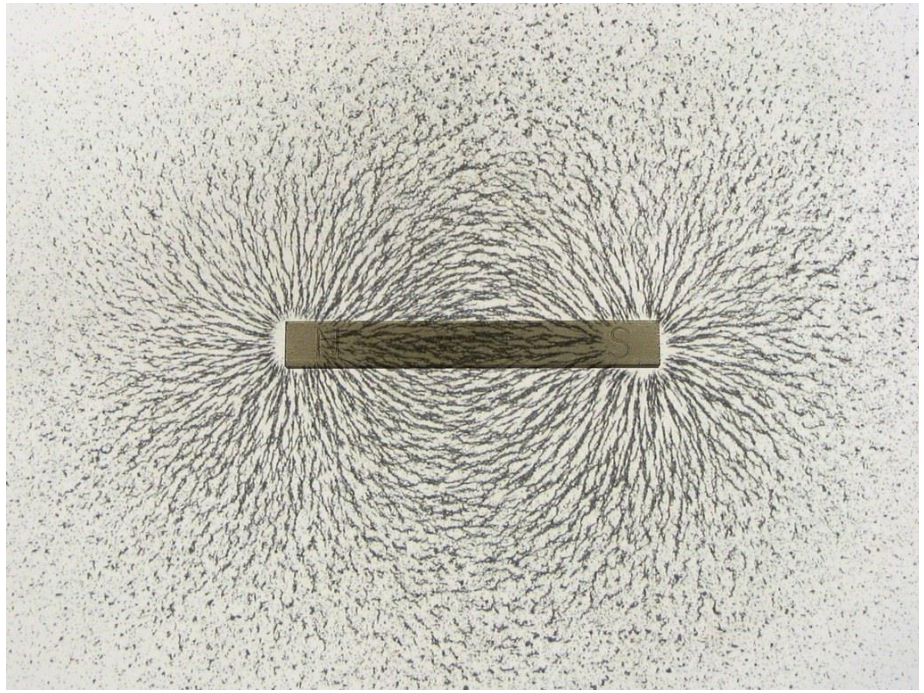
nucleus

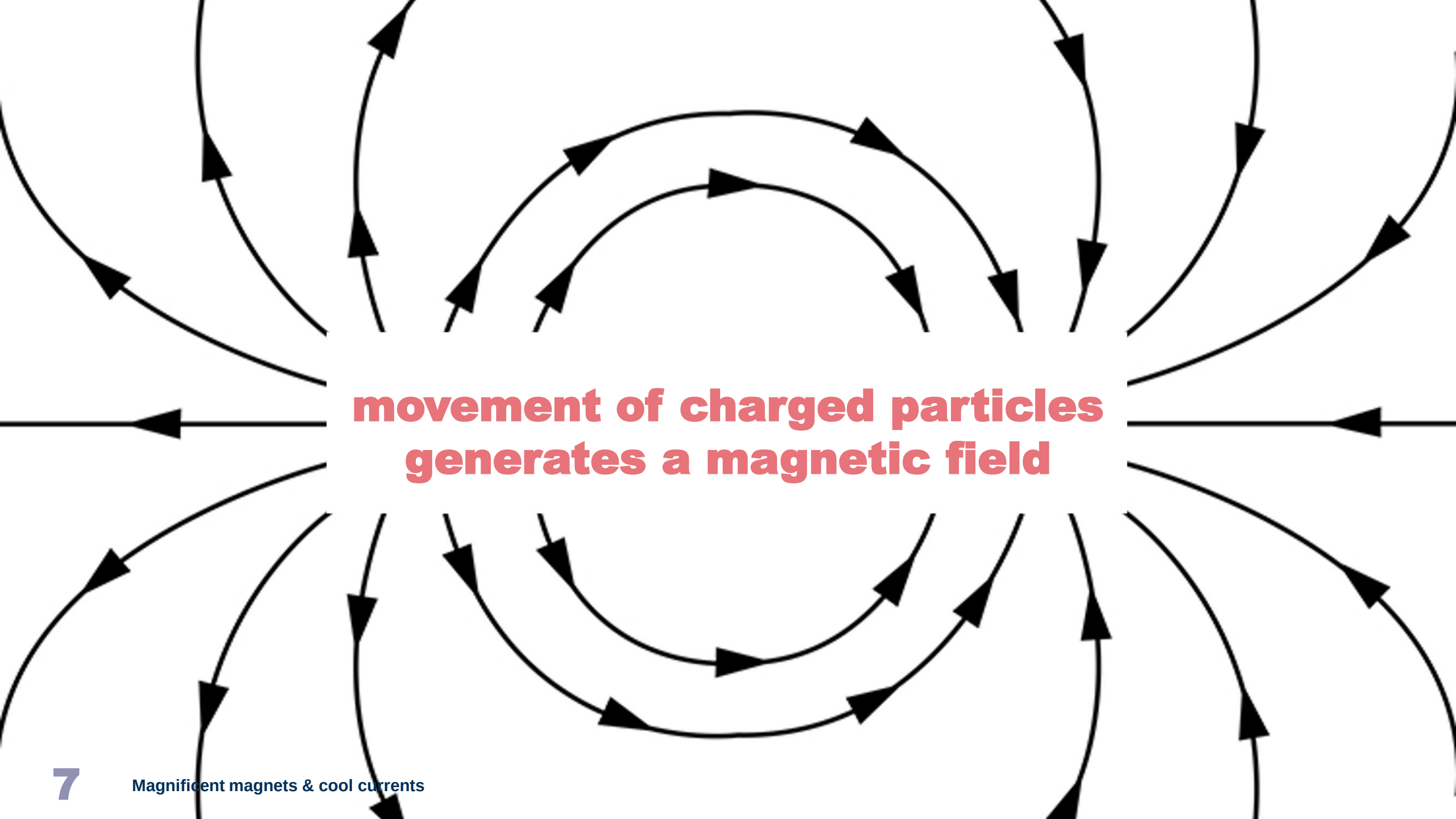
Tokamak


Poloidal magnetic field
Inner poloidal field coils (primary transformer circuit)
Outer poloidal field coils (plasma positioning and shaping)
Plasma electric current (secondary transformer circuit)
Resulting Helical magnetic field
Toroidal magnetic field
Toroidal field coils

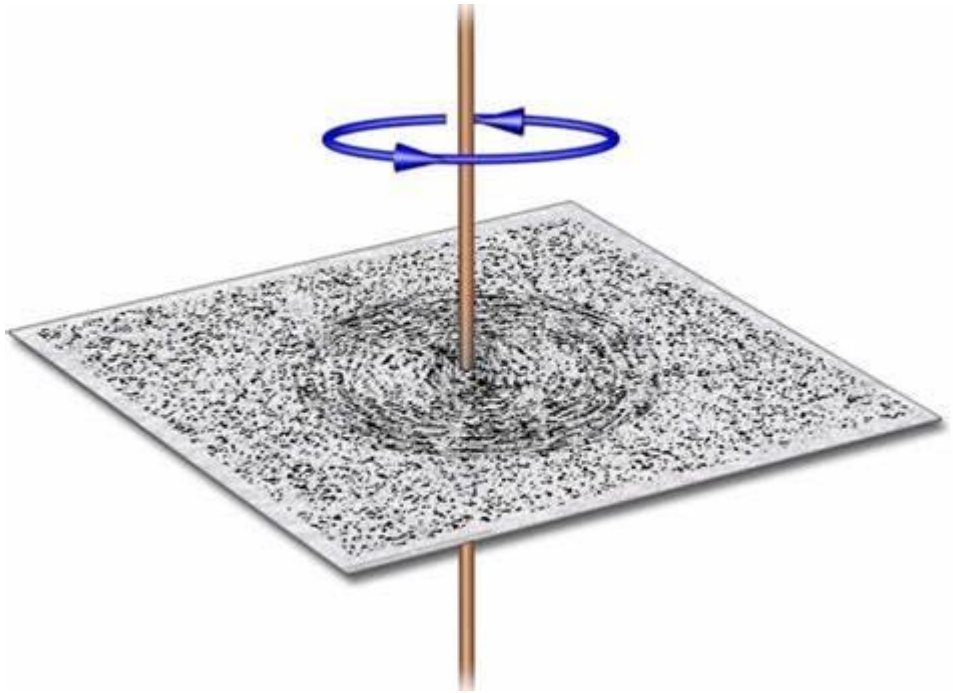
Magnetic field lines






movement of charged particles
generates a magnetic field

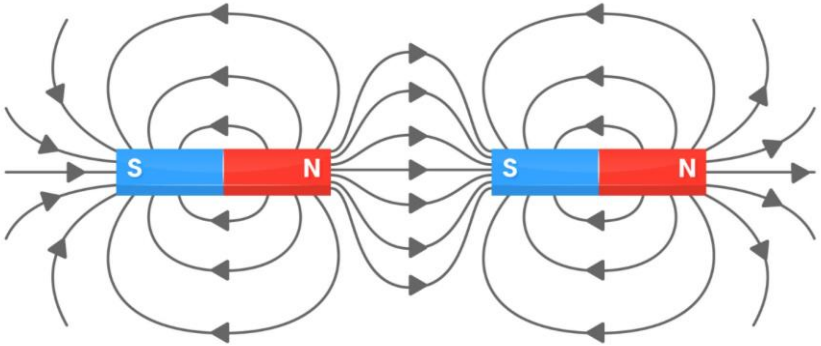
More magnetic field lines

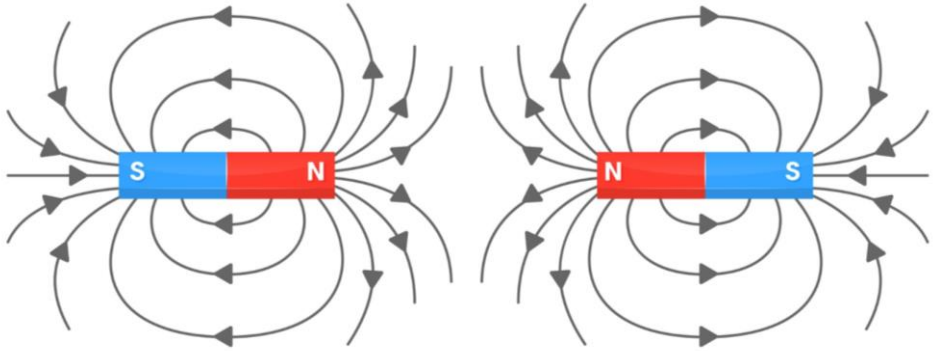


charged particles moving through a wire (as current) creates a magnetic field

Magnetic fields interacting

opposite poles attract





like poles repel