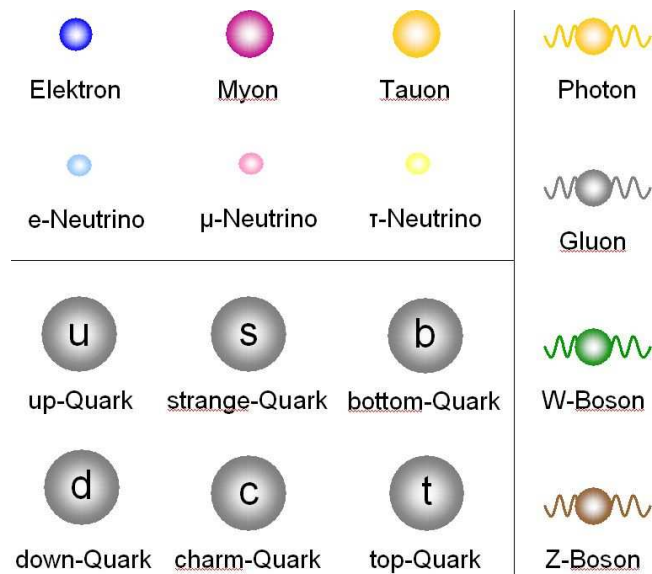


Teil 6: Standardmodell



Standardmodell 1970



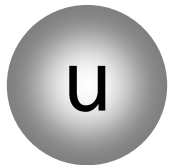
Elektron



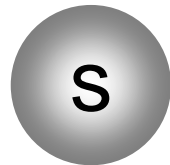
Myon



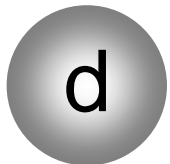
Neutrino



up-Quark



strange-Quark



down-Quark

+ Antiteilchen

Standardmodell 1970



Elektron



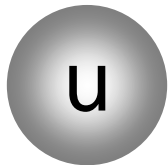
Myon



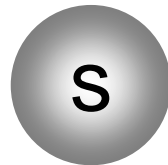
e-Neutrino



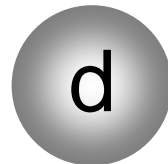
μ -Neutrino



up-Quark



strange-Quark



down-Quark

+ Antiteilchen

Standardmodell 1970



Elektron



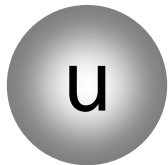
Myon



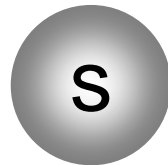
e-Neutrino



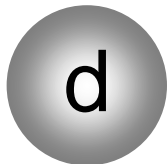
μ -Neutrino



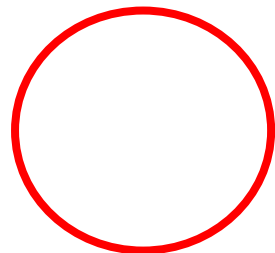
up-Quark



strange-Quark



down-Quark



+ Antiteilchen

Standardmodell 1974



Elektron



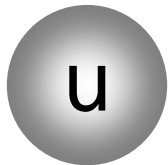
Myon



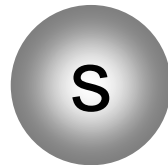
e-Neutrino



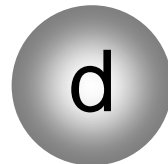
μ -Neutrino



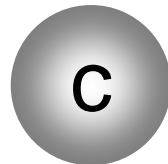
up-Quark



strange-Quark



down-Quark



charm-Quark

+ Antiteilchen

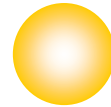
Standardmodell 1974



Elektron



Myon



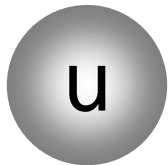
Tauon



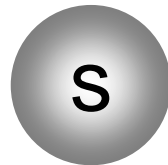
e-Neutrino



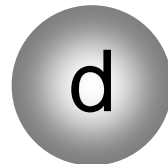
μ -Neutrino



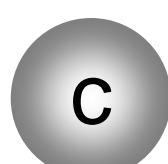
up-Quark



strange-Quark



down-Quark



charm-Quark

+ Antiteilchen

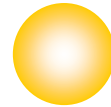
Standardmodell 1974



Elektron



Myon



Tauon



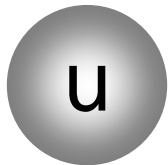
e-Neutrino



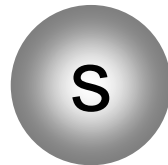
μ -Neutrino



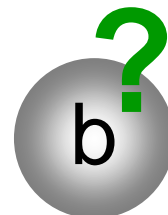
τ -Neutrino



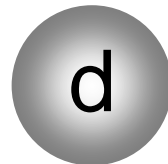
up-Quark



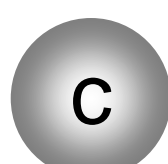
strange-Quark



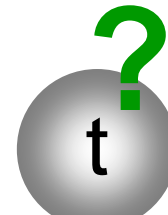
bottom-Quark



down-Quark



charm-Quark



top-Quark

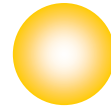
Standardmodell



Elektron



Myon



Tauon



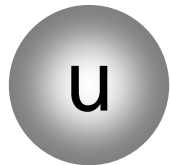
e-Neutrino



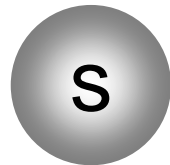
μ -Neutrino



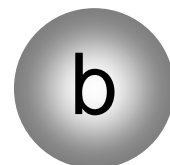
τ -Neutrino



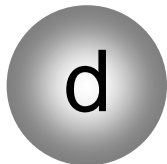
up-Quark



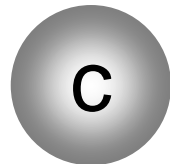
strange-Quark



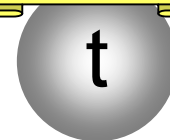
bottom-Quark



down-Quark



charm-Quark



top-Quark

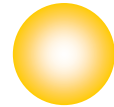
Standardmodell



Elektron



Myon



Tauon



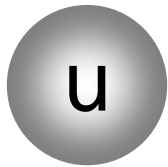
e-Neutrino



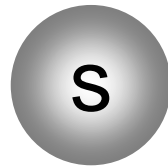
μ -Neutrino



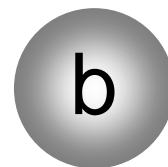
τ -Neutrino



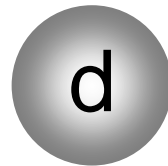
up-Quark



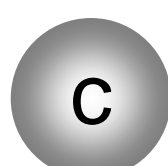
strange-Quark



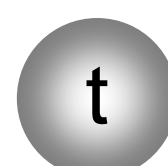
bottom-Quark



down-Quark



charm-Quark



top-Quark

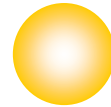
Standardmodell



Elektron



Myon



Tauon



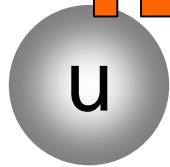
e-Neutrino



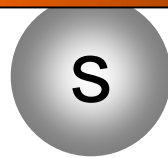
μ -Neutrino



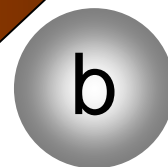
Neutrino



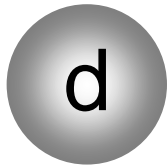
up-Quark



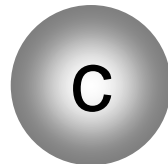
strange-Quark



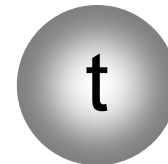
bottom-Quark



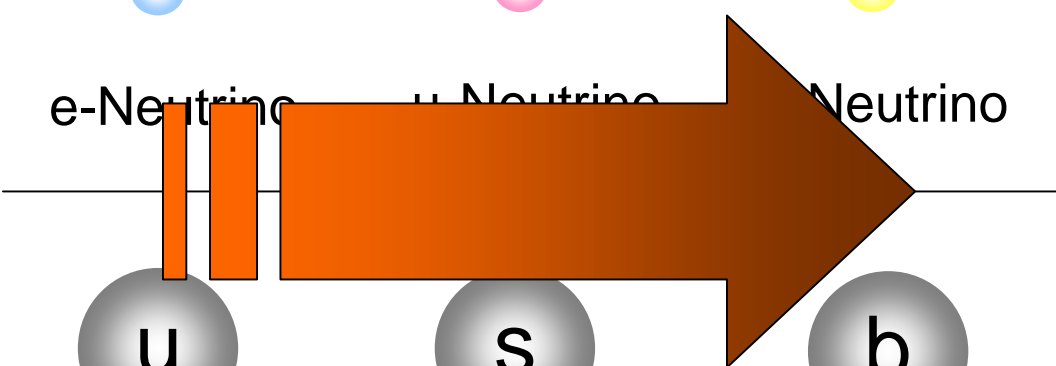
down-Quark



charm-Quark



top-Quark



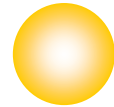
Standardmodell



Elektron



Myon



Tauon



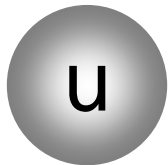
e-Neutrino



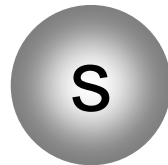
μ -Neutrino



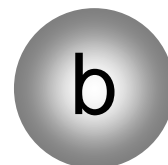
τ -Neutrino



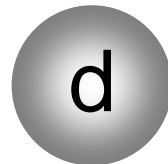
up-Quark



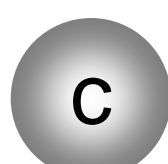
strange-Quark



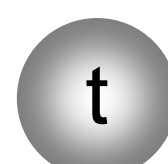
bottom-Quark



down-Quark



charm-Quark



top-Quark

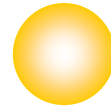
Standardmodell



Elektron



Myon



Tauon



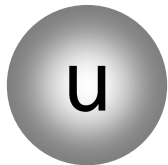
e-Neutrino



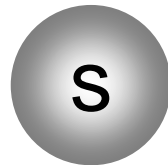
μ -Neutrino



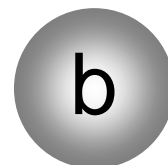
τ -Neutrino



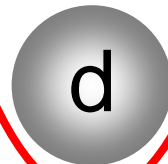
up-Quark



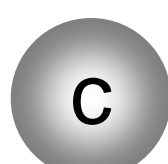
strange-Quark



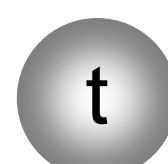
bottom-Quark



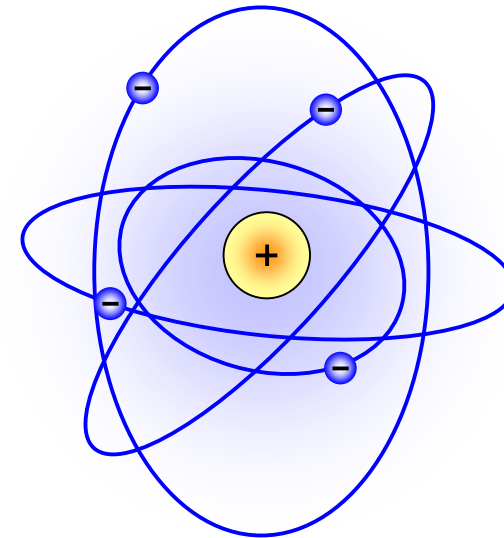
down-Quark



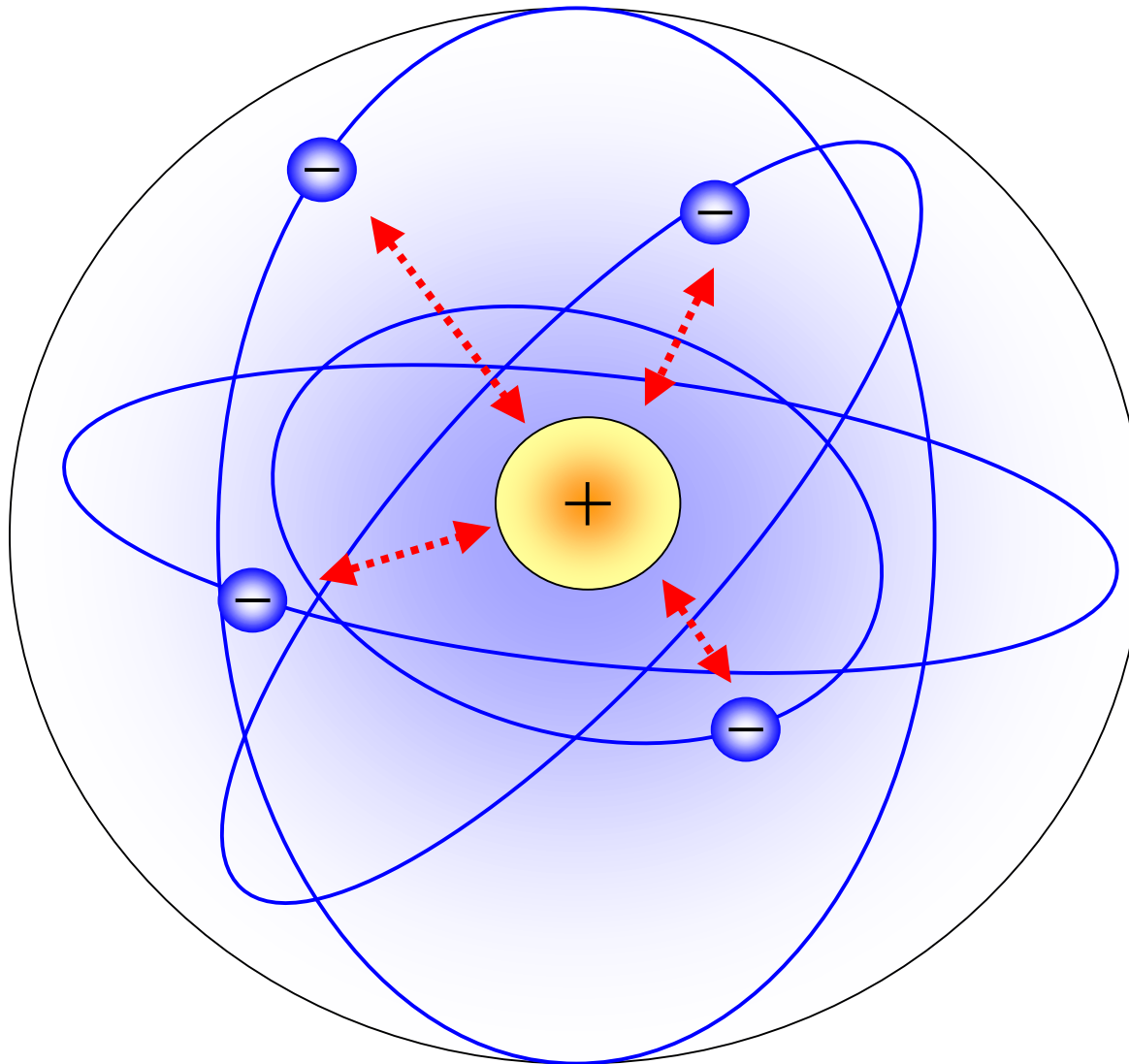
charm-Quark



top-Quark



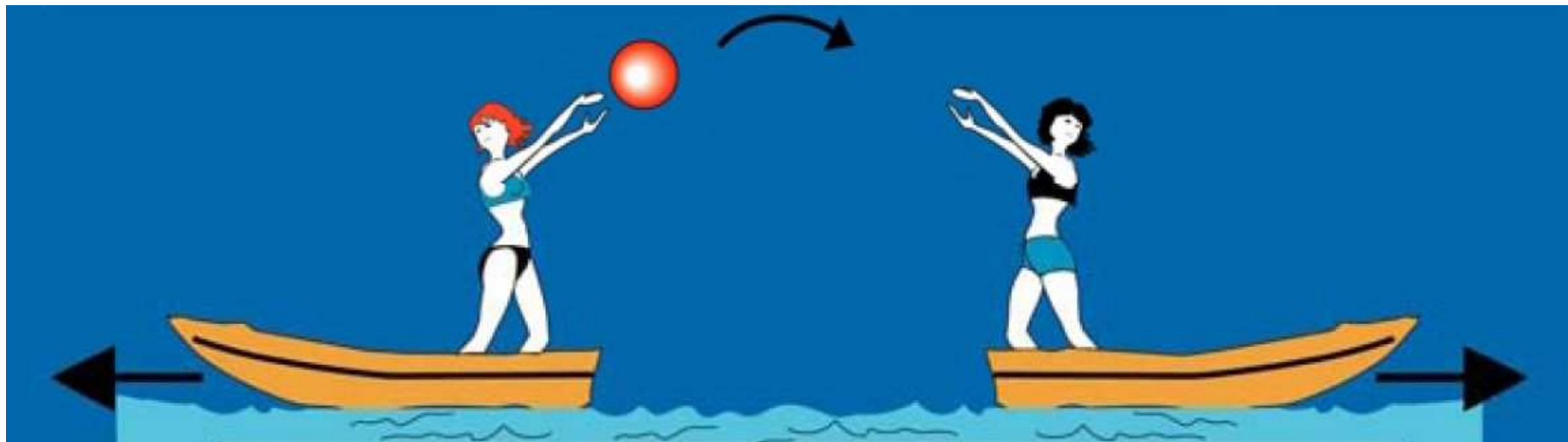
Elektromagnetische Kraft



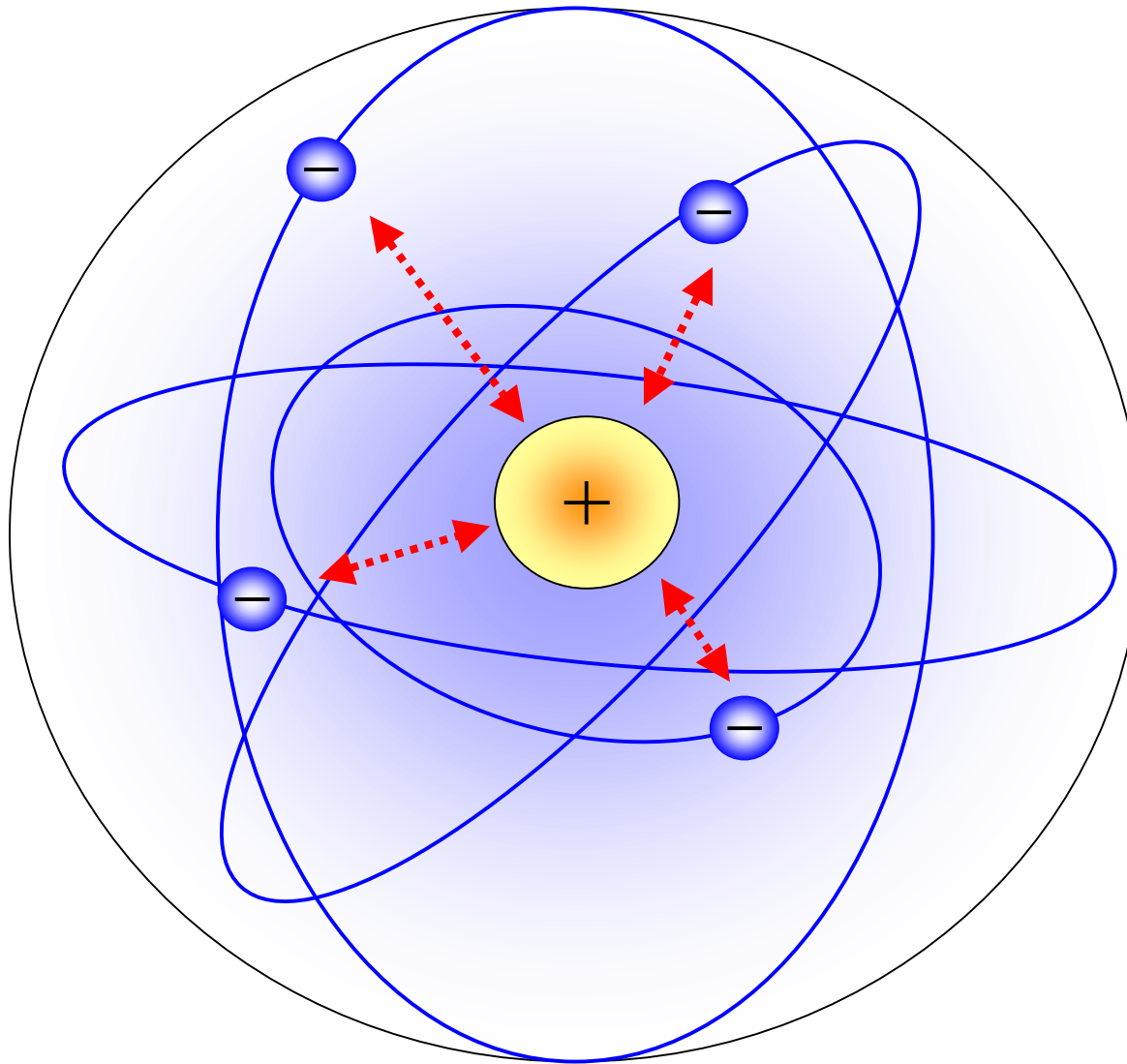
Austauschteilchen



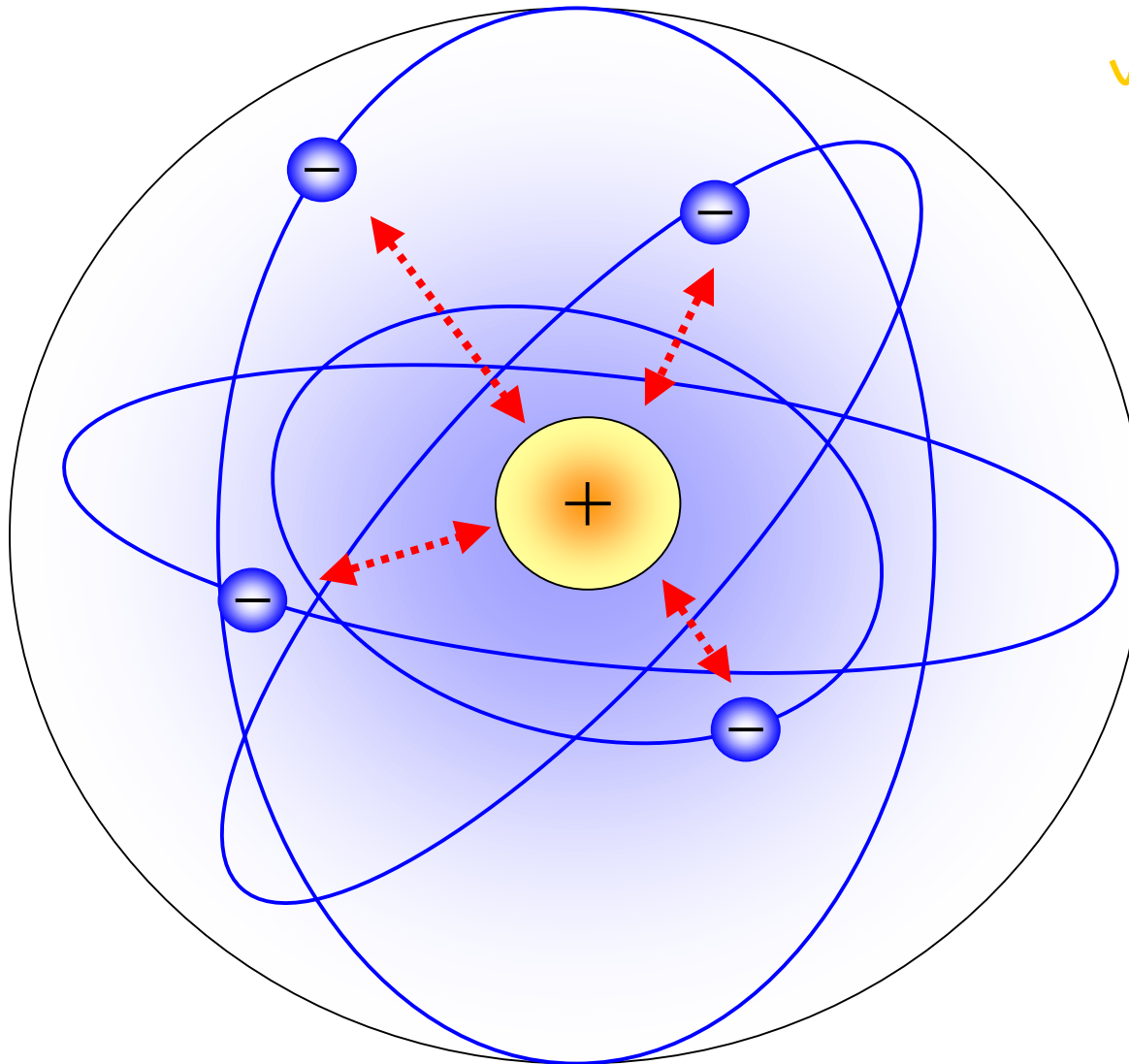
Austauschteilchen



Elektromagnetische Kraft

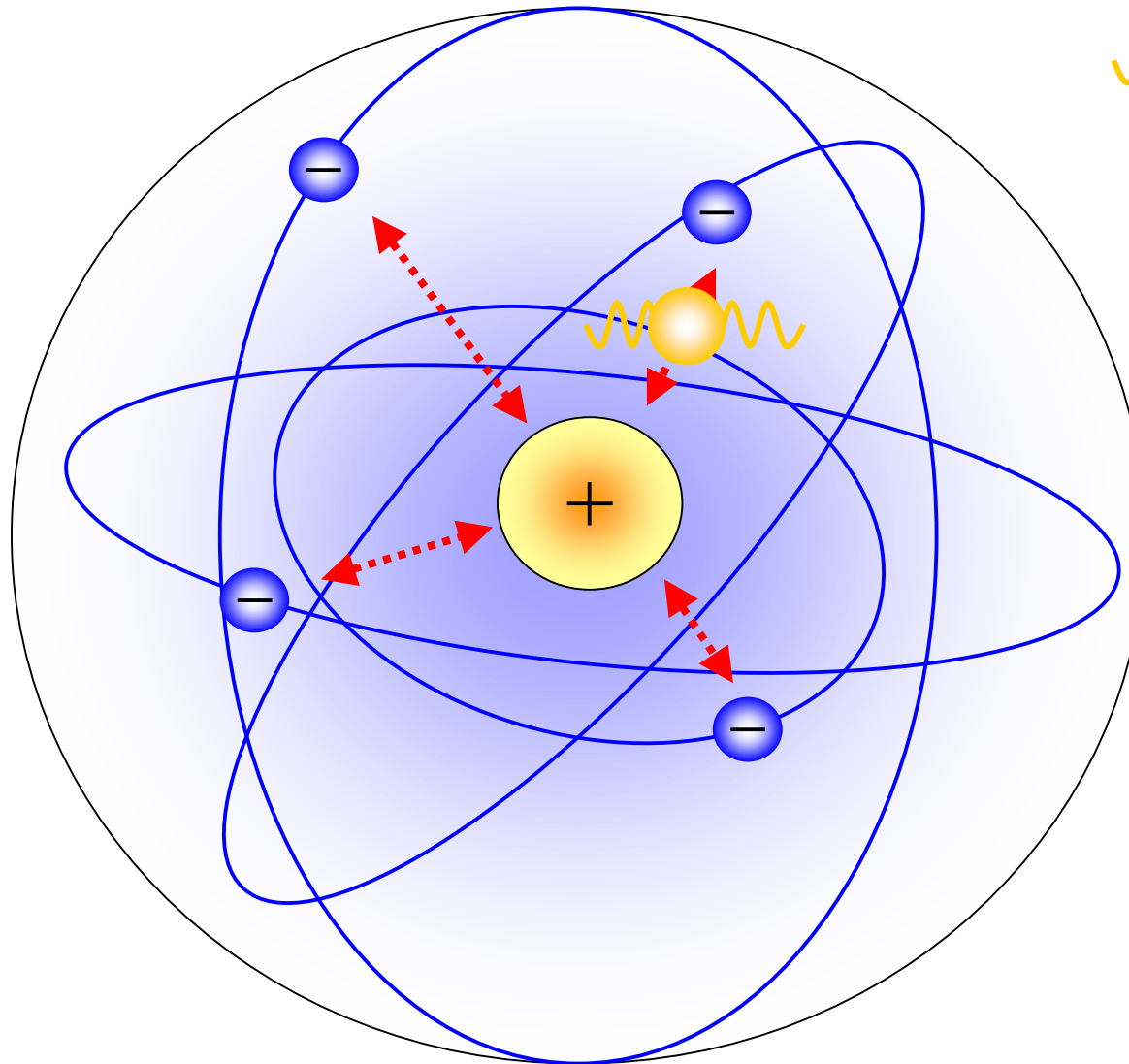


Elektromagnetische Kraft



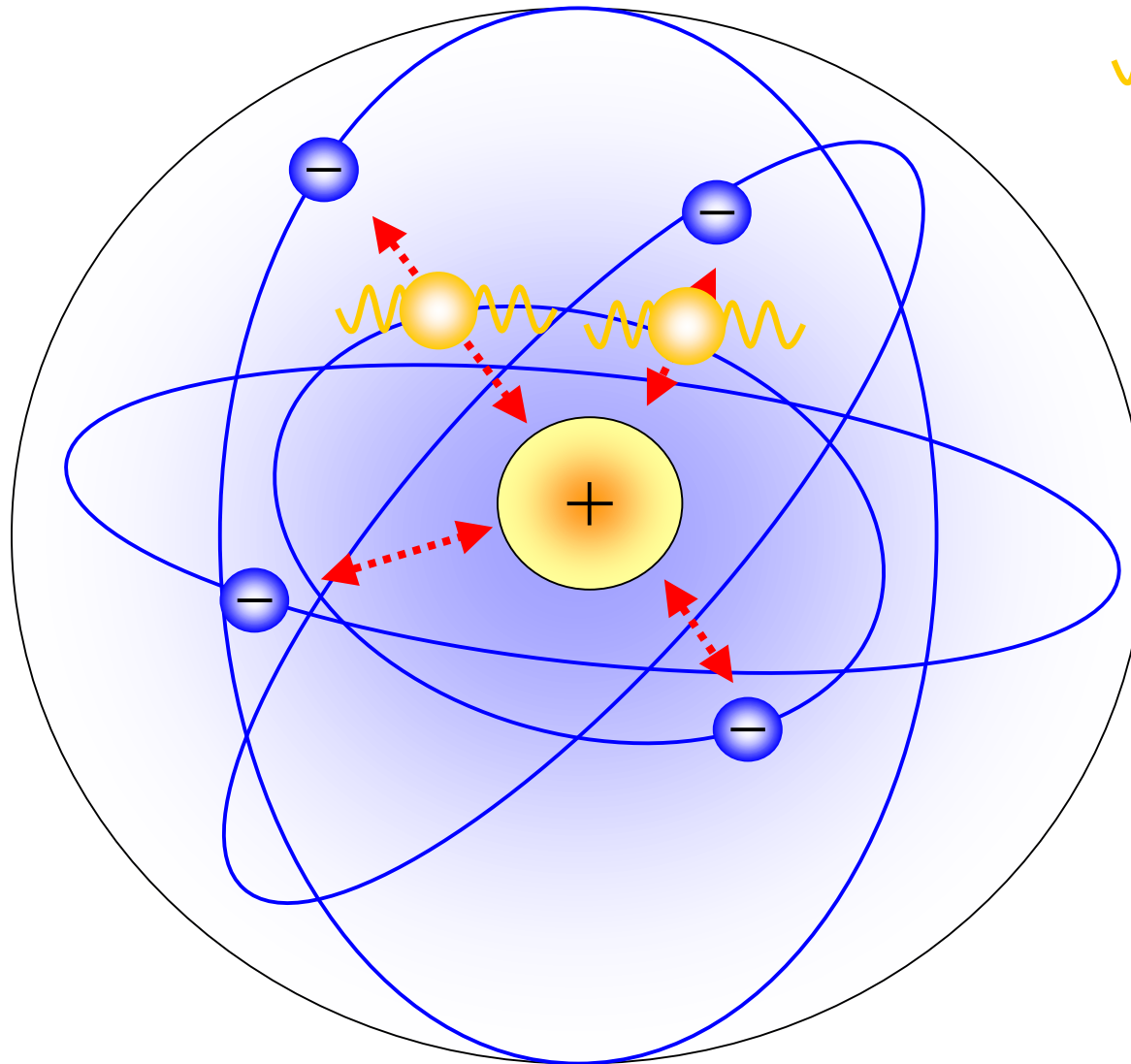
Photon

Elektromagnetische Kraft



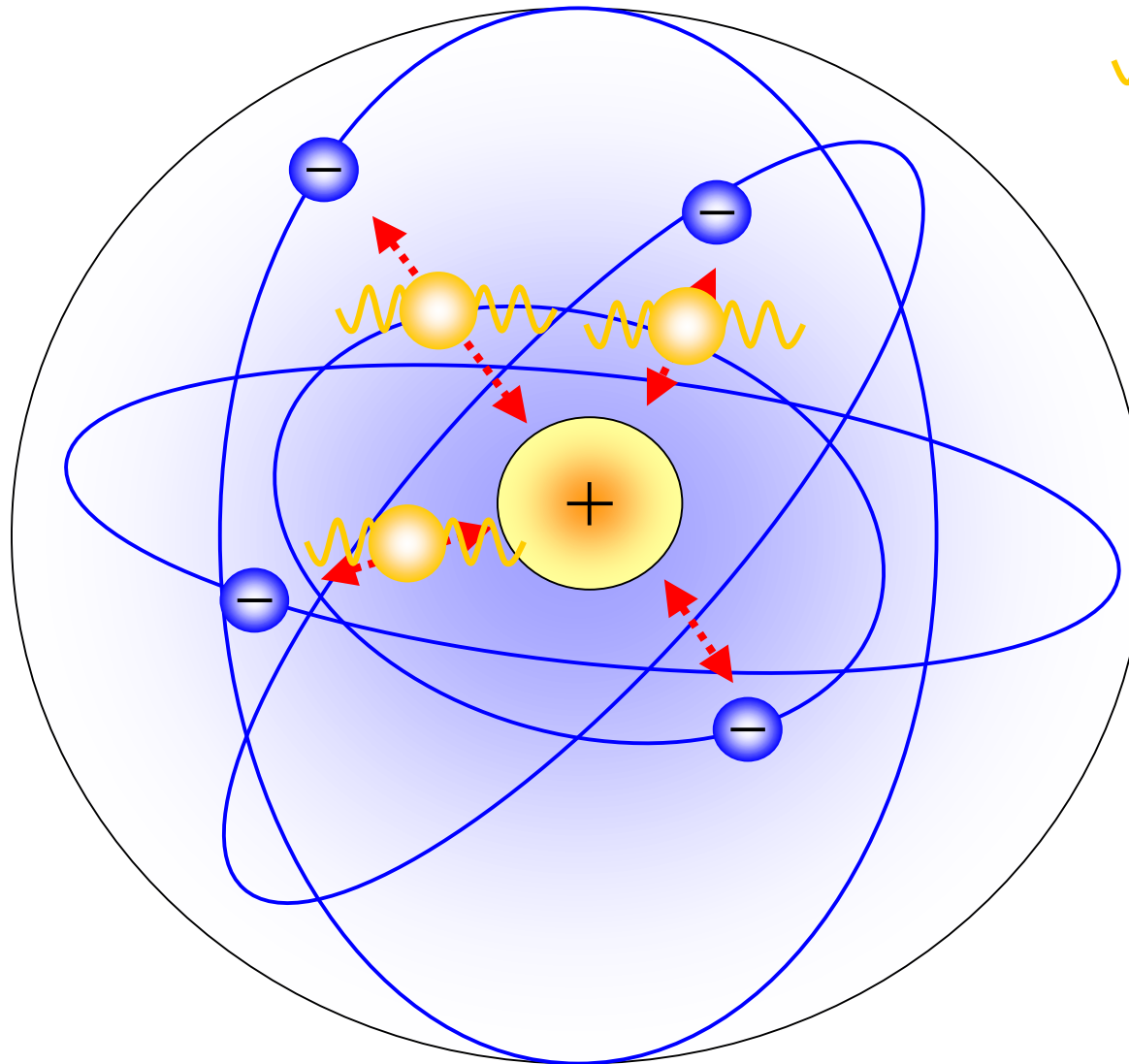
Photon

Elektromagnetische Kraft



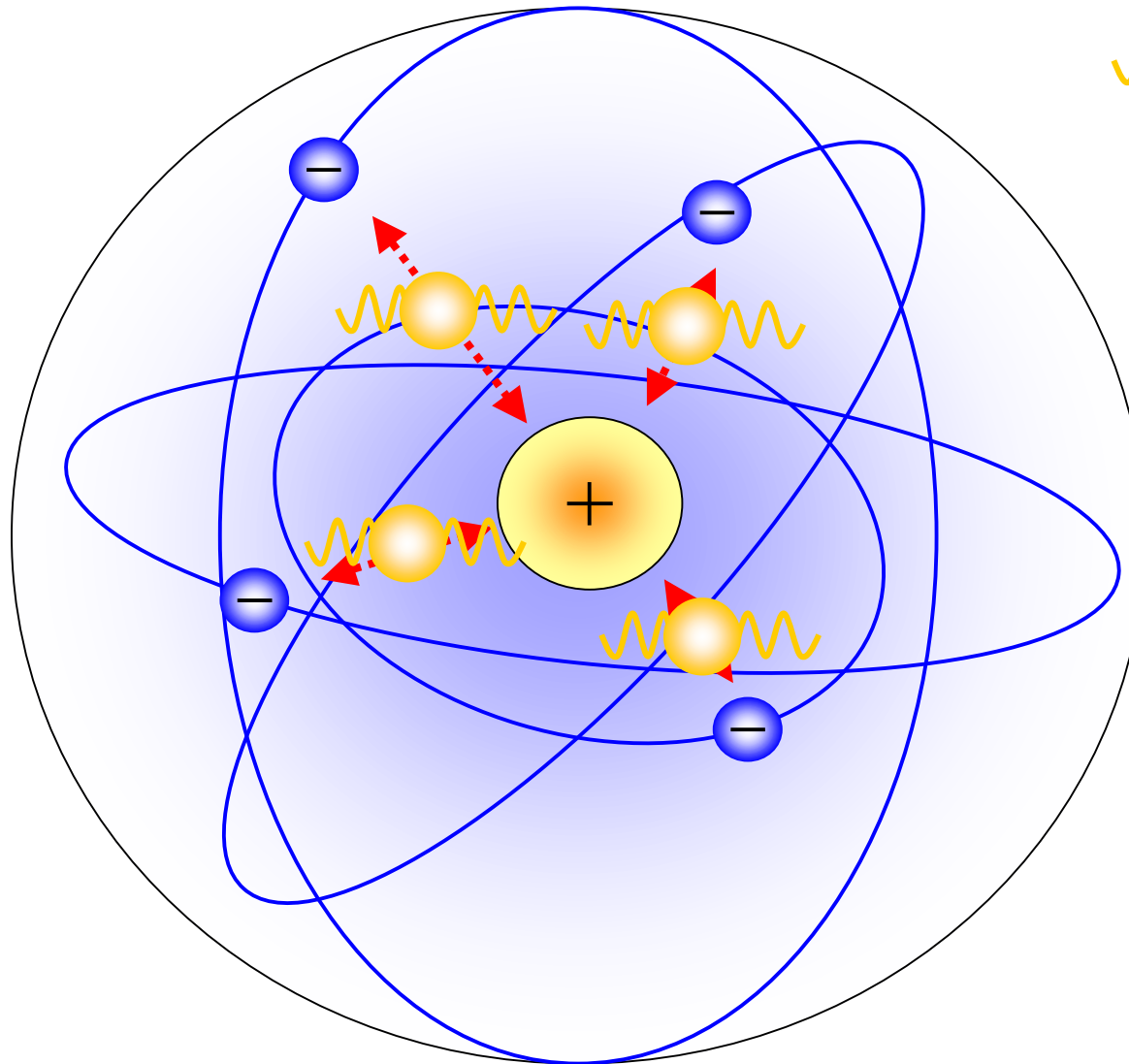
Photon

Elektromagnetische Kraft



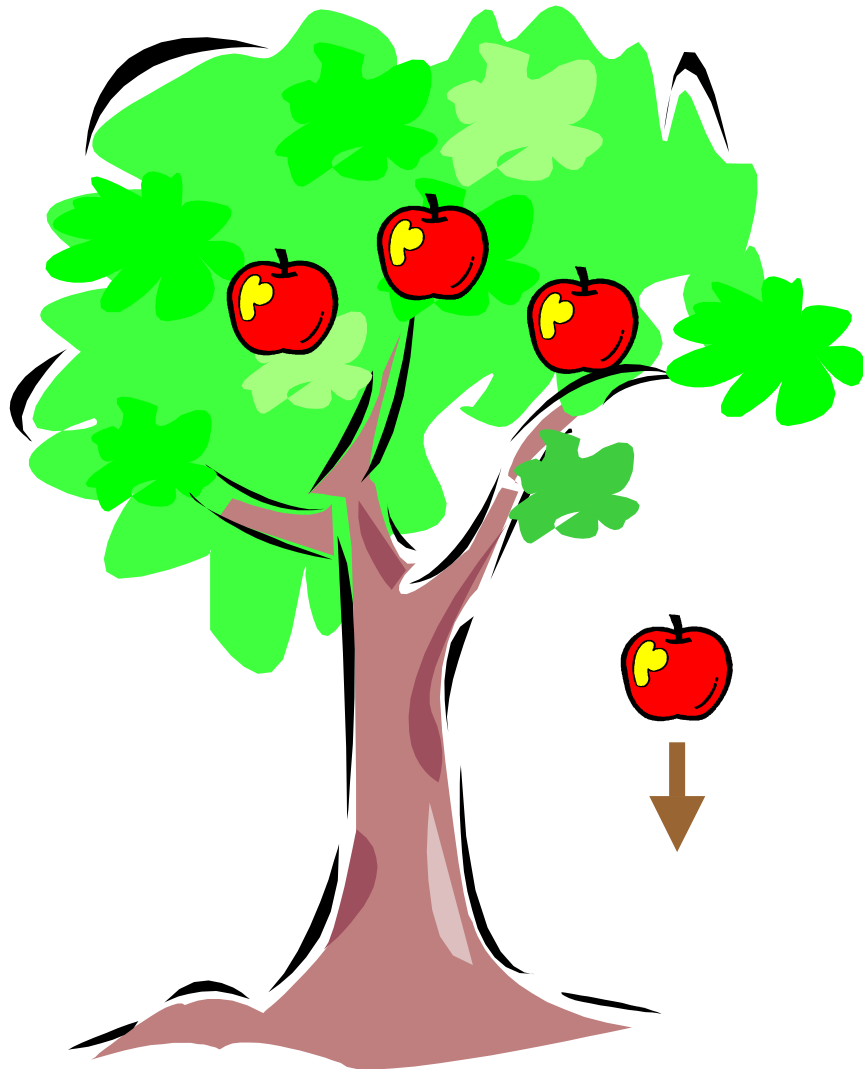
Photon

Elektromagnetische Kraft

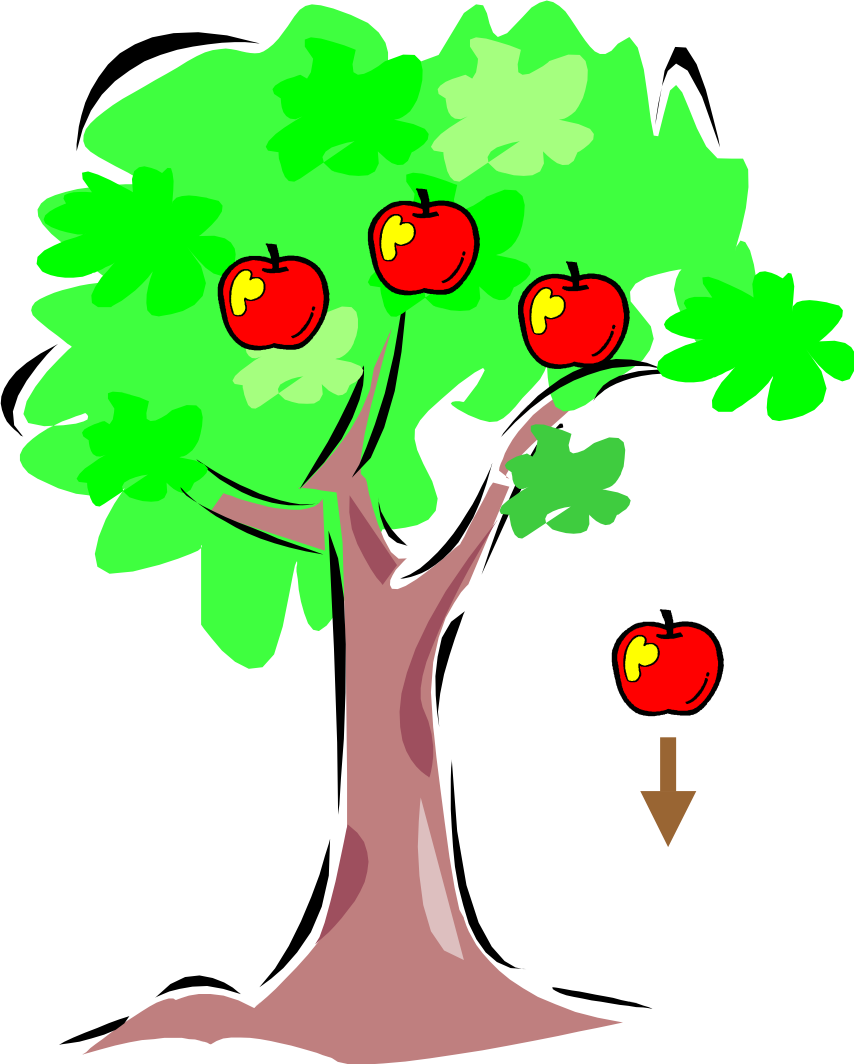


Photon

Gravitation

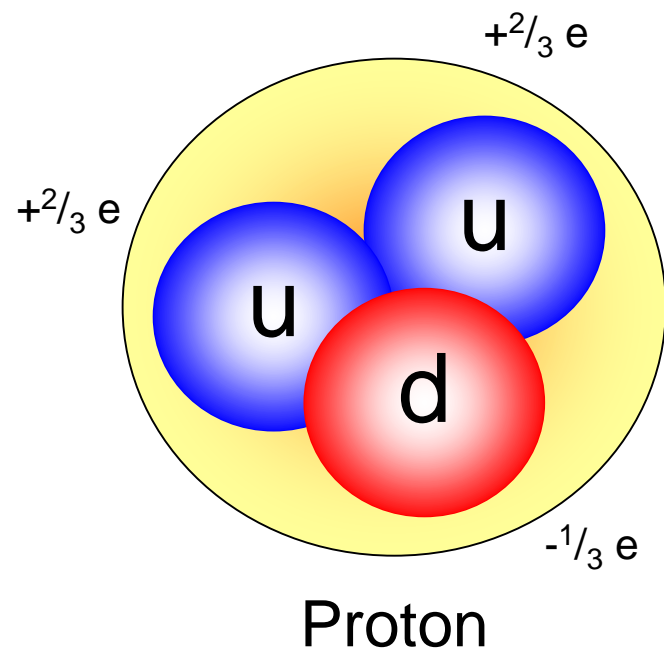


Gravitation

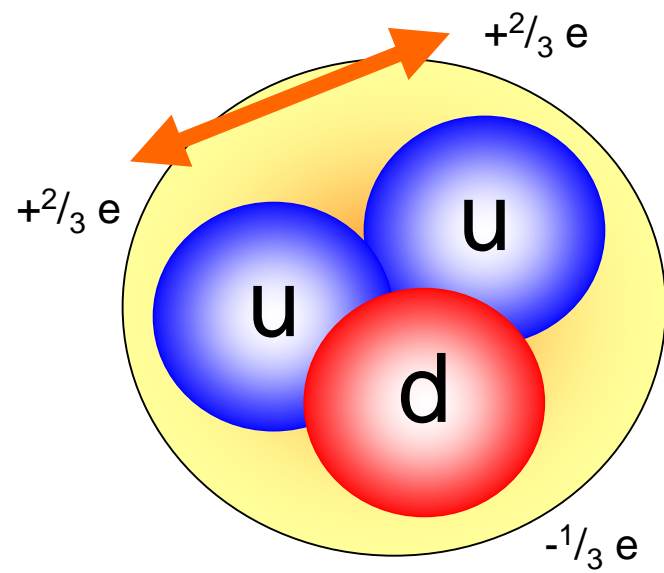


Graviton

Starke Kraft

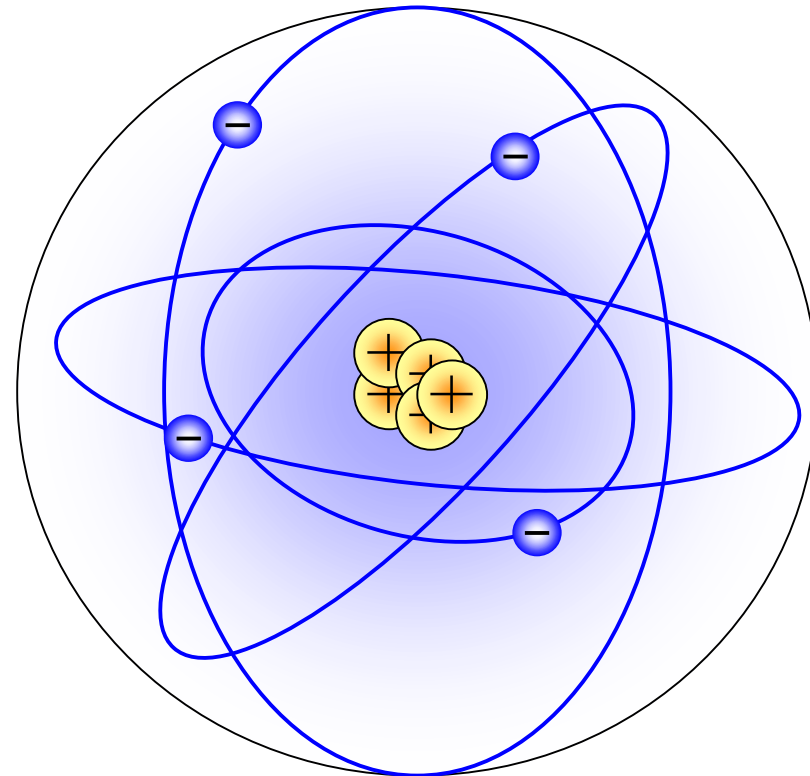
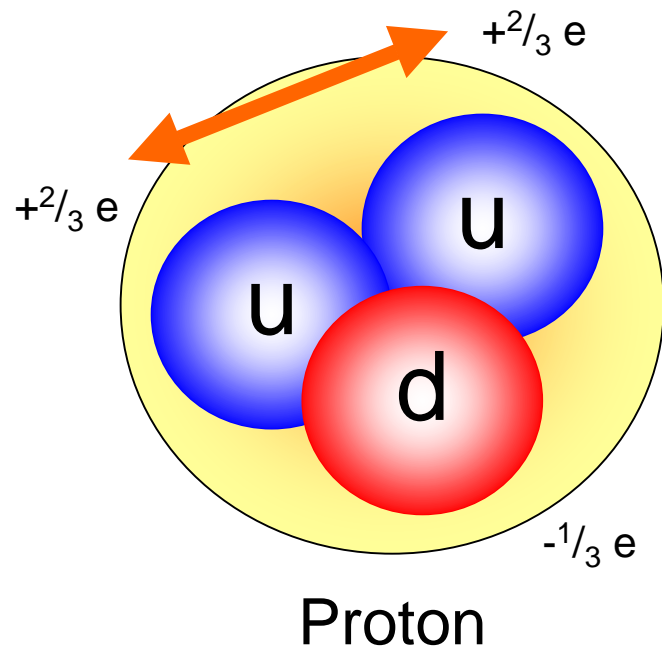


Starke Kraft

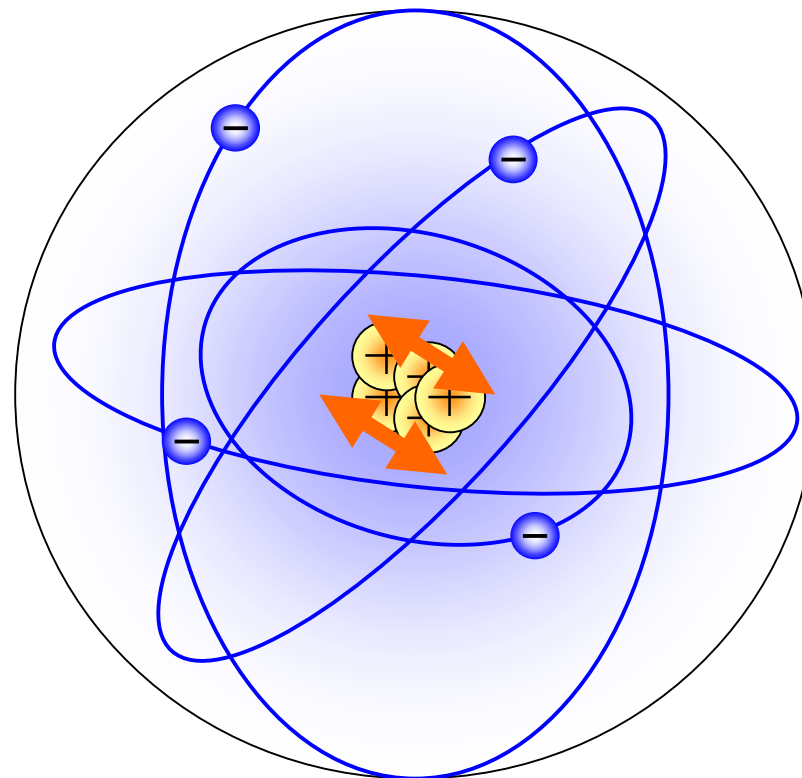
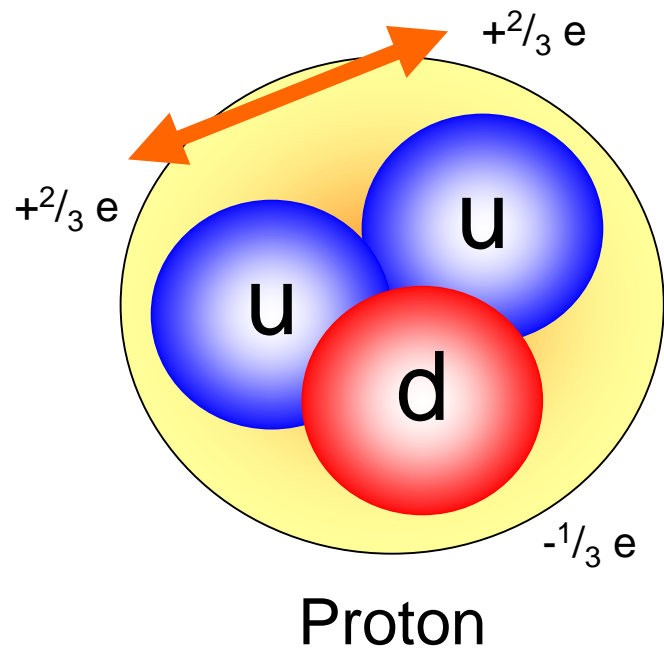


Proton

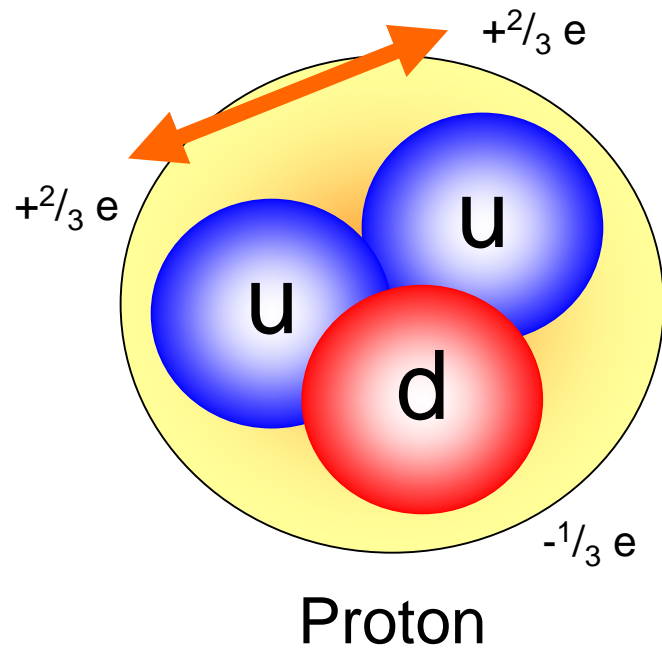
Starke Kraft



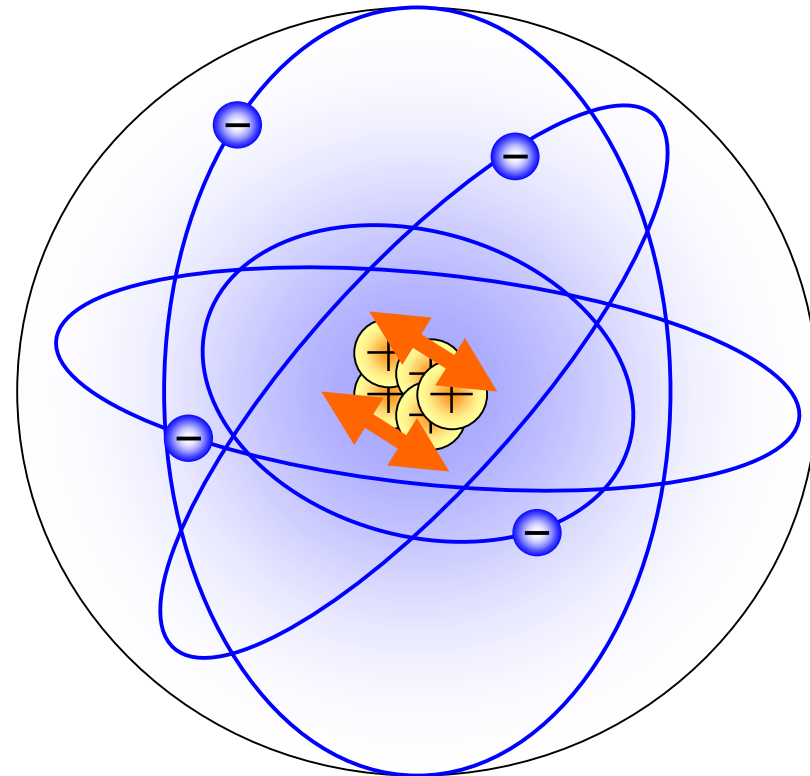
Starke Kraft

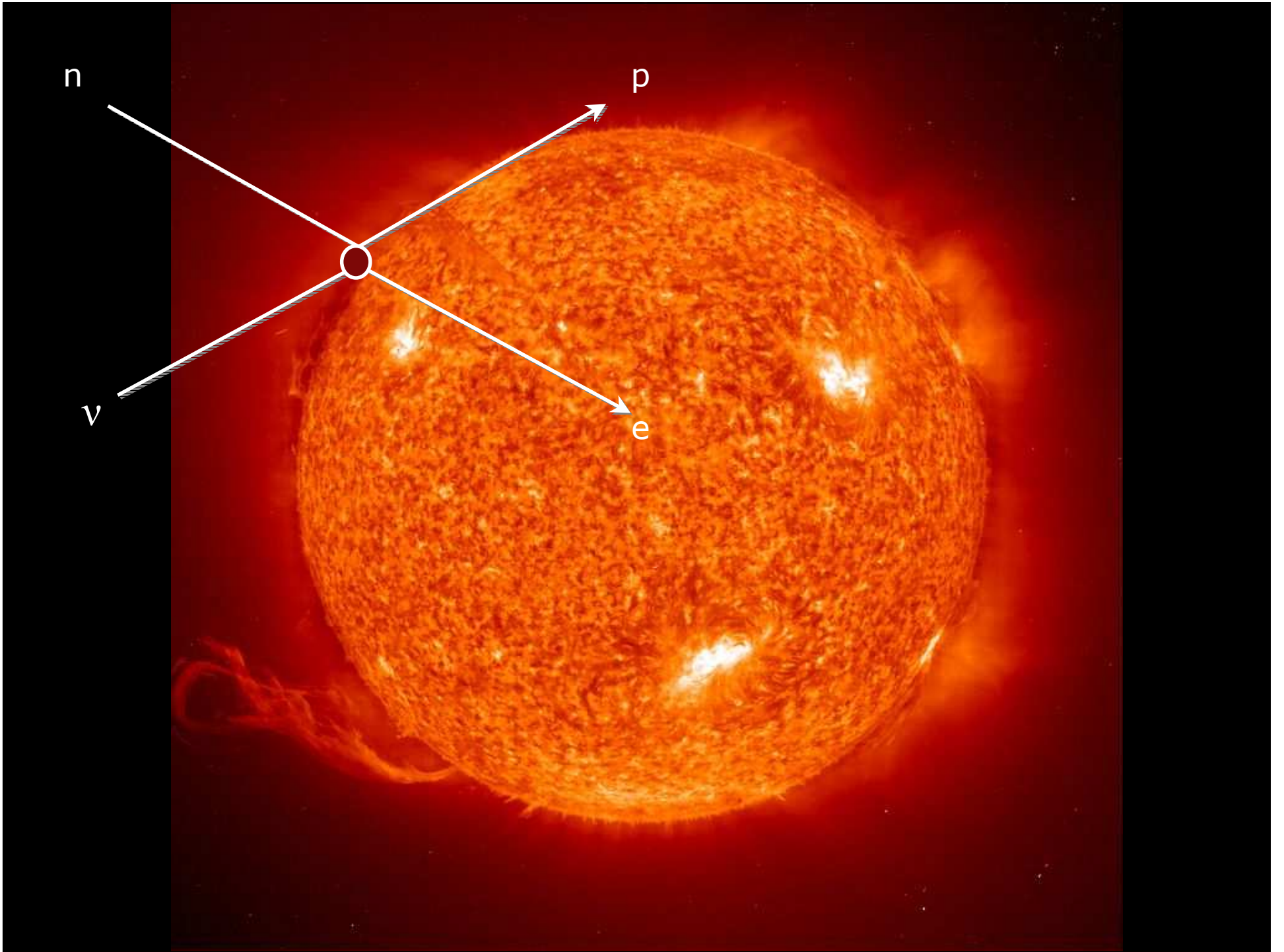


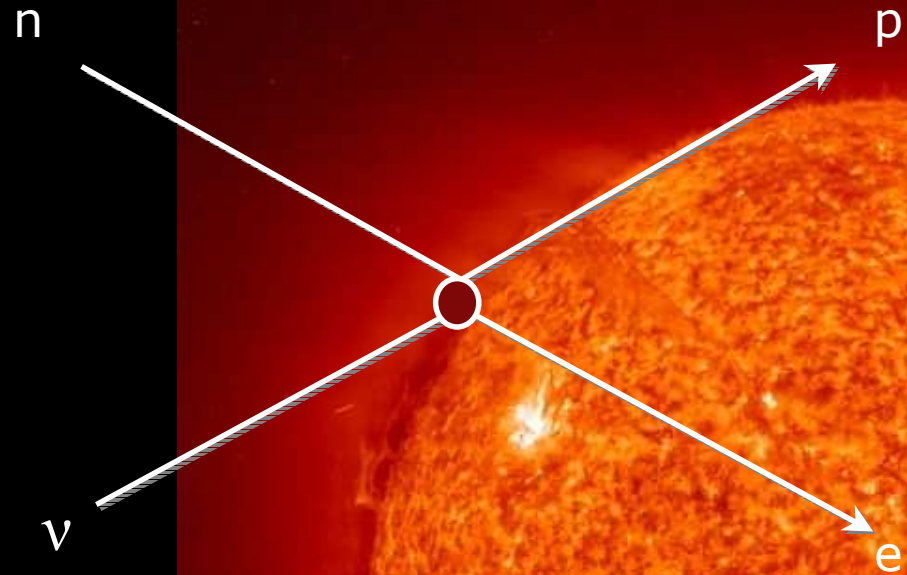
Starke Kraft



Gluon







„Schwache Kraft“

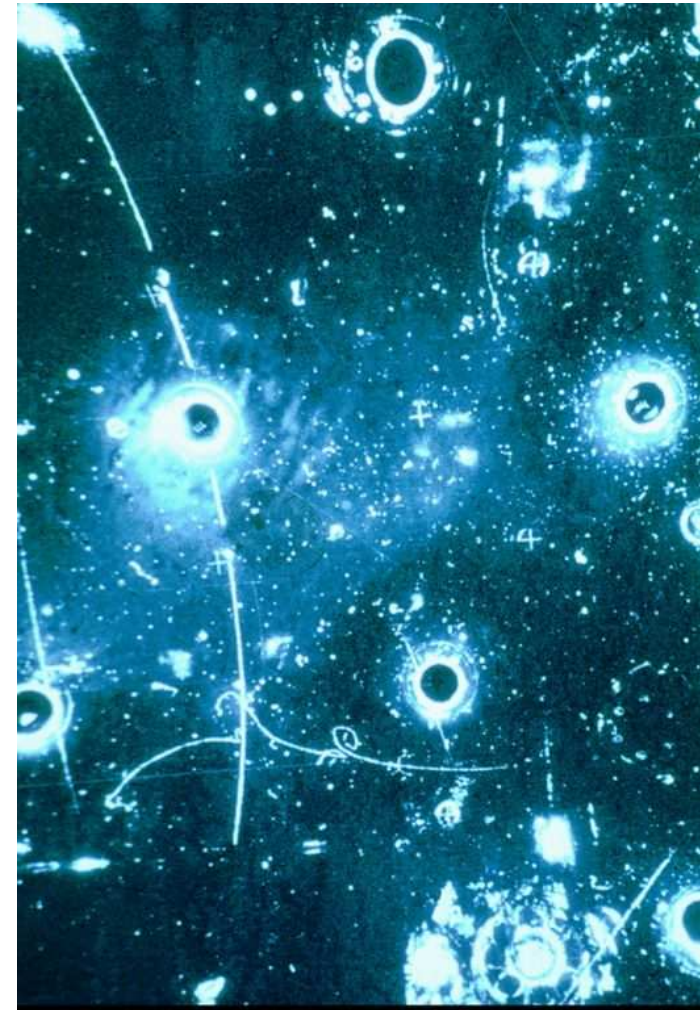
Schwache Kraft



W-Boson



Z-Boson



Schwache Kraft



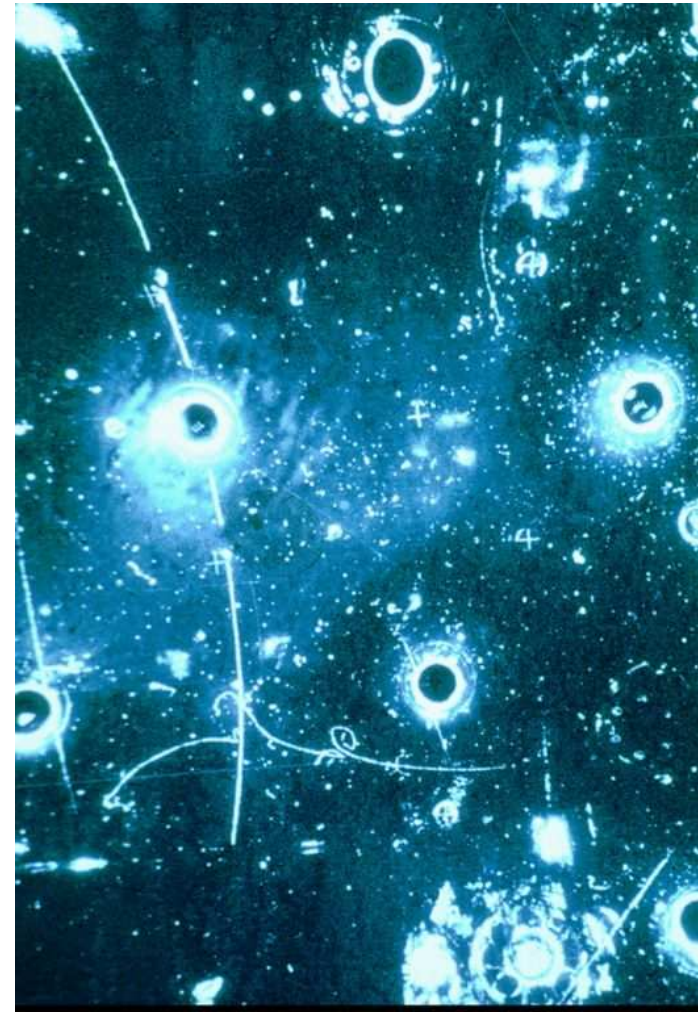
W-Boson



Z-Boson



Carlo Rubbia, CERN 1983



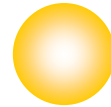
Standardmodell 2008



Elektron



Myon



Tauon



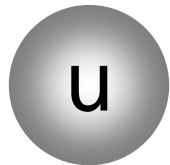
e-Neutrino



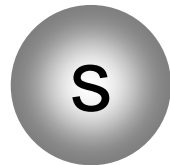
μ -Neutrino



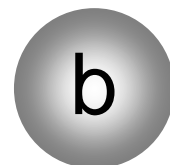
τ -Neutrino



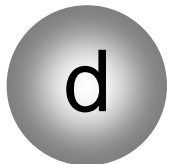
up-Quark



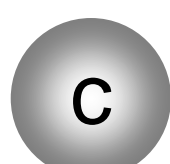
strange-Quark



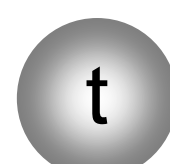
bottom-Quark



down-Quark



charm-Quark



top-Quark



Photon



Gluon



W-Boson



Z-Boson