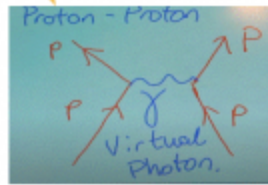


Feynman Diagrams

The two protons move towards each other, exchange a virtual gamma photon and then they move away from each other (repel)



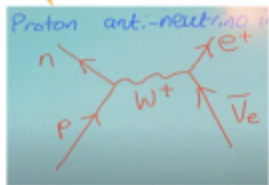
Proton-Proton

In this case, W^+ , released by the proton, turns into a neutrino and a positron β^+ particle. Lepton number conserved. Charge conserved



Beta Plus Decay

A W^+ boson is released as the exchange particle, which in turn interacts with the antineutrino to form the β^+ particle.

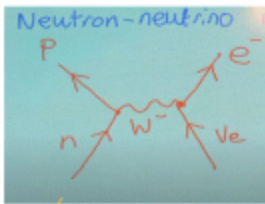


Proton-Antineutrino

The exchange particle (boson) W^- , released by the neutron, turns into an anti-neutrino and an electron β^- particle. Lepton number conserved. Charge conserved.



Beta Minus Decay



Neutron-Neutrino

A W^- boson is released as the exchange particle, which in turn interacts with the neutrino to form the β^- particle.



Electron Capture

A proton from a proton-rich nucleus interact with an electron in an inner shell of the atom, just outside the nucleus. A W^+ boson, the exchange particle, turns the electron into a neutrino