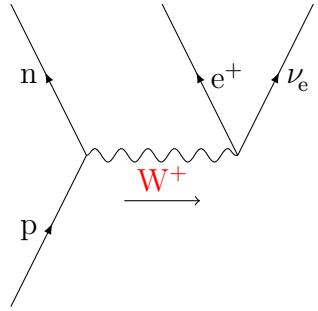
Feynman diagrams

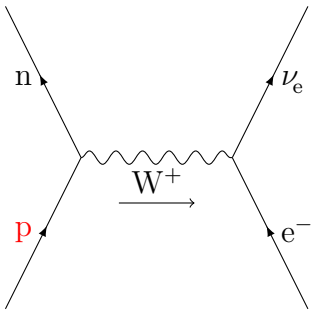
A.C. Norman
anorman@bishopheber.cheshire.sch.uk

State what each Feynman diagram below represents, and name the missing particle.

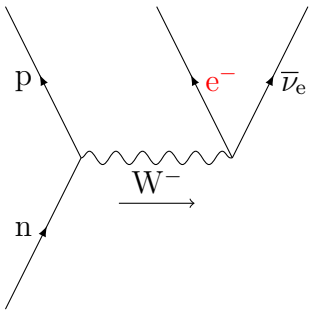
1. β^+decay ($\mathrm{p} \longrightarrow \mathrm{ne}^+\nu_\mathrm{e}$)



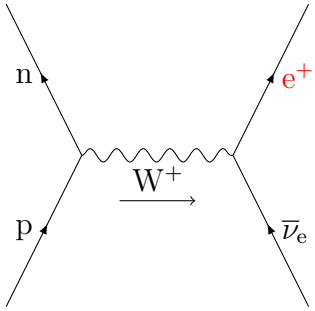
2. e^- capture ($\mathrm{pe}^- \longrightarrow \mathrm{n}\nu_\mathrm{e}$)



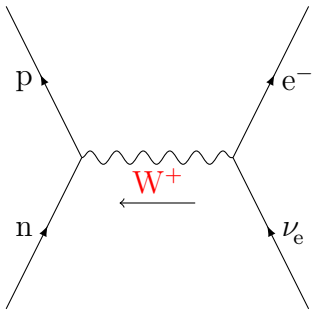
3. β^-decay ($\mathrm{n} \longrightarrow \mathrm{pe}^-\overline{\nu}_\mathrm{e}$)



4. antineutrino–proton collision ($\mathrm{p}\overline{\nu}_\mathrm{e} \longrightarrow \mathrm{ne}^+$)



5. neutrino–neutron collision ($\mathrm{n}\nu_\mathrm{e} \longrightarrow \mathrm{pe}^-$)



6. electron–proton collision ($\mathrm{pe}^- \longrightarrow \mathrm{n}\nu_\mathrm{e}$)