

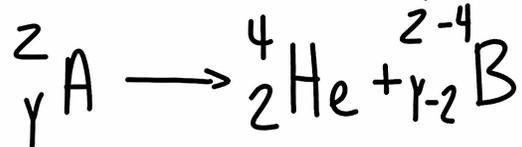
Review : α decay

α particle : $2p^+ + 2n^0$
(alpha) [He nucleus]

Mass# \rightarrow : 4 He
Atomic# \rightarrow : 2 He

α emitter

Too large atom
(Elements 83 - end)



Element A \rightarrow Element B
(Y) (Y-2)

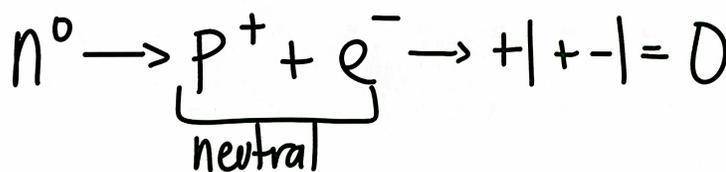
Beta (-), Beta (+) Decay

[Beta emission] [positron emission]

Beta(-) : ${}^0_{-1}e^-$

${}^0_{-1}e^-$ \leftarrow no change in mass # [$p^+ + n^0$] [$-1p^+$]
 ${}^0_{-1}e^-$ \leftarrow lose 1 atomic # [$p^+ \rightarrow -1p^+$] [$+1n^0$]

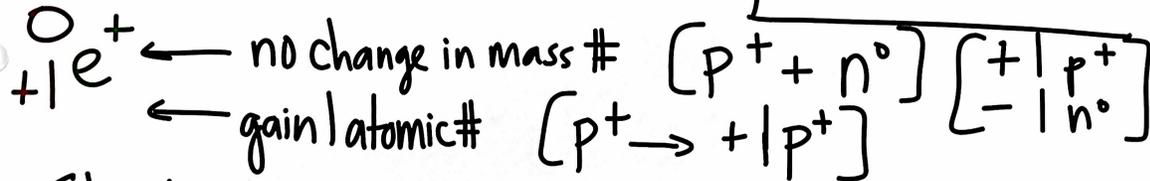
Structure of a n^0



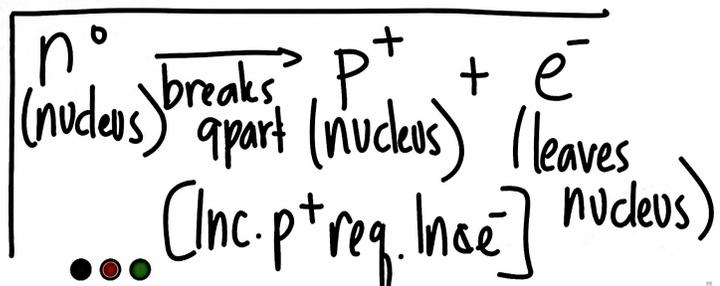
p^+ (nucleus)
 e^- (outside nuc.)
 $= n^0 (p^+ + e^-)$

Beta (-), Beta (+) Decay
[Beta emission] [positron emission]

$$\text{Beta}(+) : \overset{0}{+1} e^+$$



Structure of a n^0



Beta (-)

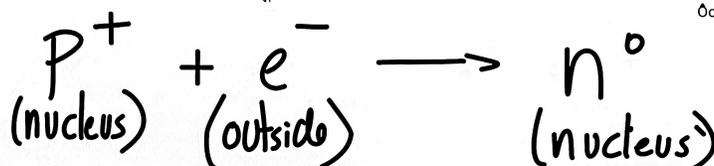
[Beta]

makes n^0 too many p^+

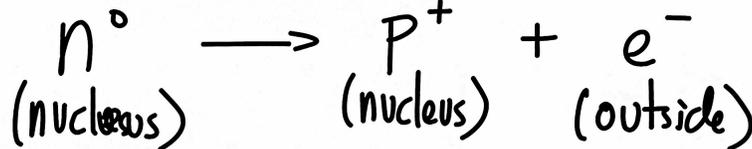
Beta (+)

[Positron]

Makes p^+ too many n^0



[p^+ leaves nucleus, hits e^- , becomes n^0 in nucleus]



[n^0 breaks apart, p^+ stays, e^- leaves]

