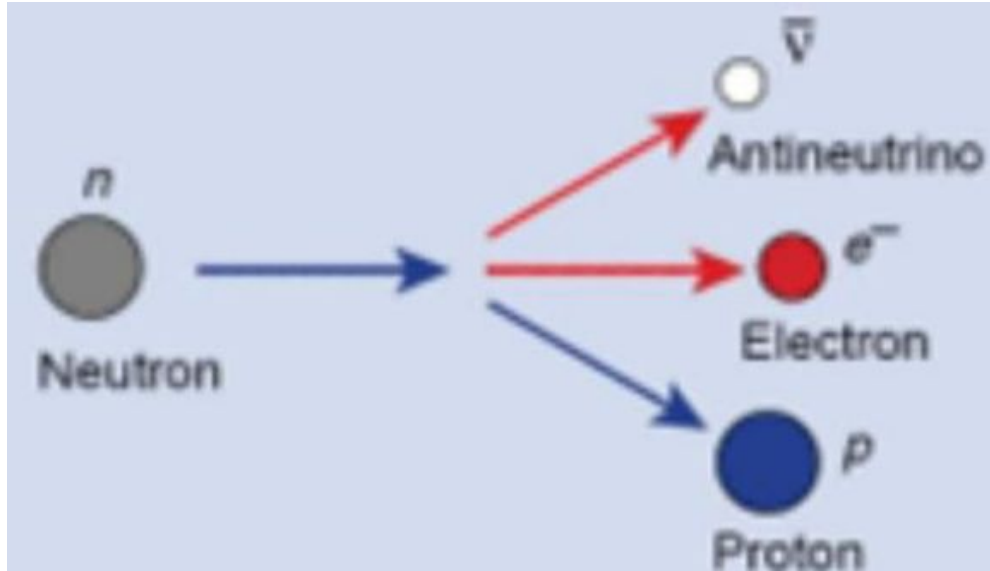


Determining the Mass of a π -Meson and a Neutrino

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Abstract: Determine the mass of a π -meson and a neutrino



Main Viewpoint & Result:

We know [1], there be

a Neutron = a Proton + an Electron + a Neutrino (or Antineutrino)

a π -Meson = an Electron + a Neutrino (or Antineutrino)

$M_n = 1.008665u$; $M_p = 1.007276u$; $M_e = 0.00054858u$; and $1 u = 1.660565 \cdot 10^{-27}kg$

We have

$$M_\pi = M_e + M_{\bar{\nu}} \quad \text{and}$$

$$M_n = M_p + M_\pi = M_p + M_e + M_{\bar{\nu}}$$

Then, we get

$$M_\pi = M_n - M_p = 1.008665u - 1.007276u = 0.001389u \quad \text{and}$$

$$M_{\bar{\nu}} = M_n - M_p - M_e = 1.008665u - 1.007276u - 0.00054858u = 0.00084042u$$

Comprehensive above, we have, the mass of a π -Meson is $0.001389u$, or $1.3m_0c^2/MeV$;

and the mass of a Neutrino is $0.00084042u$, or $0.78131576069125 m_0c^2/MeV$ (We know $M_{\text{neutrino}} = M_{\text{antineutrino}}$; if there be exist antineutrinos).

Reference

[1] <A New Model of a Neutron Based on π -Meson>

<http://vixra.org/abs/1405.0206>

(Picture from the network, and not for any commercial purposes, thanks to authors)