Determining the Mass of a π-Meson and a Neutrino

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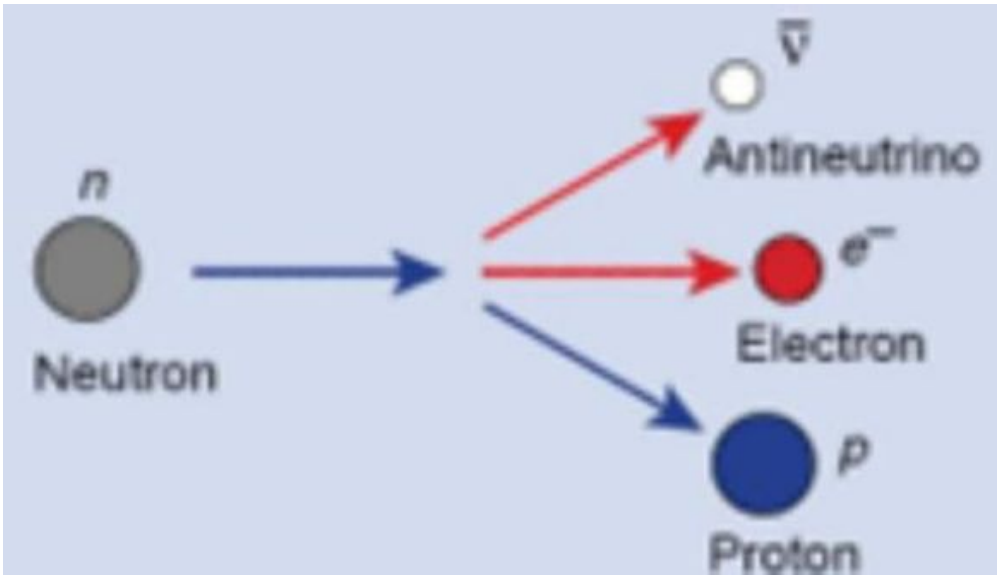
Abstract: Determine the mass of a π-meson and a neutrino



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)

Mn=1.008665u; Mp=1.007276u; Me=0.00054858u; and 1 u=1.660565•10^{-27}kg

We have

$$M\pi = Me+Mne \quad \text{and}$$

$$Mn = Mp+M\pi = Mp+Me+Mne$$

Then, we get

$$M\pi = Mn-Mp = 1.008665u-1.007276u = 0.001389u \quad \text{and}$$

$$Mne = Mn-Mp-Me = 1.008665u-1.007276u-0.00054858u = 0.00084042u$$

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 (and we have M-neutrino=M-antineutrino= 0.00084042u; if there be exist antineutrinos).

Reference

[1] <A New Model of a Neutron Based on π-Meson>
http://vixra.org/abs/1405.0206