Determining the Mass of a $\pi$-Meson and a Neutrino

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Abstract: Determine the mass of a $\pi$-meson and a neutrino

Main Viewpoint & Result:

We know [1], there be

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

a $\pi$-Meson = an Electron + a Neutrino (or Antineutrino)

M$_n$=1.008665u; M$_p$=1.007276u; M$_e$=0.00054858u; and 1 u=1.660565×10$^{-27}$kg

We have

\[ M_\pi = M_e + M_{\nu} \]
\[ M_n = M_p + M_\pi = M_p + M_e + M_{\nu} \]

Then, we get

\[ M_\pi = M_n - M_p = 1.008665u - 1.007276u = 0.001389u \]
\[ M_{\nu} = M_n - M_p - M_e = 1.008665u - 1.007276u - 0.00054858u = 0.00084042u \]

Comprehensive above, we have, the mass of a $\pi$-Meson is 0.001389u, or 1.3m$_0$c$^2$/MeV; and the mass of a Neutrino is 0.00084042u, or 0.78131576069125 m$_0$c$^2$/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 $\pi$-Meson>

http://vixra.org/abs/1405.0206

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