

Answer on Question #63655, Physics / Atomic and Nuclear Physics

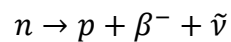
Question:

Can a neutron be broken in to an electron and a proton?

Answer:

Since the neutron is heavier than proton (1,293 332 05 (48) MeV, or 0.001 388 449 00 (51) amu), it can decay in the free state. The only decay channel is allowed by the law of conservation of energy and laws of conservation of electric charge, baryon and lepton quantum numbers, is the beta decay of a neutron into a proton, an electron and an electron antineutrino.

Scheme decay:



<https://www.AssignmentExpert.com>