

The MHCE8S Model Of Physics

George R. Briggs

Abstract: The replacement for the Standard Model is given.

All masses are 4 digits or less, except for the down_{neutron} quark. We also have 1 archaic (pre-1st cyclic universe) particle of 0.5 MeV (See my prior ViXra publication).

8 Quarks:

$$\text{up}_{\text{proton}} = 4.8 \text{ MeV (all)}$$

$$\text{Down}_{\text{proton}} = 2.3$$

$$\text{Charm} = 1275$$

$$\text{Strange} = 95$$

$$\text{Top}^1 = 171.7 \times 10^3$$

$$\text{Bottom} = 4.180 \times 10^3$$

$$\text{Up}^2_{\text{neutron}} = 3.55$$

$$\text{Down}^3_{\text{neutron}} = 2.2956$$

4 Bosons:

$$\text{Higgs} = 125.0 \times 10^3$$

$$\text{Z}_{\text{weak}} = 91.19 \times 10^3$$

$$\text{W}^+ = 80.38 \times 10^3$$

$$\text{W}^- = 80.38 \times 10^3$$

4 Massless gauge bosons:

Photon

Graviton

Gluon

Cosmophoton⁴

8 Leptons:

$$\text{Electron} = 0.511$$

$$\text{Muon} = 105.6$$

$$\text{Tau} = 1776$$

$$\text{Archaic electron}^5 = 0.5$$

$$\text{Electron neutrino} = 2.2 \times 10^{-6}$$

$$\text{Muon neutrino} = 0.17$$

$$\text{Tau neutrino} = 15.5$$

$$\text{Z(4430) neutrino}^6 = 4430$$

Quanta of the Universe = Higgs - Z_{weak} = 33.81 GeV energy only (energy-second quanta of QM are not included here but this 4-digit quantum energy packet is in the MHCE8S Model).

We first notice that all particles are given to just 4 digits or less accuracy except the new neutron down quark which needs 5 digits to get a neutron mass accuracy close to that measured.

This probably indicates that **nature** may not be satisfied with this final quark yet.

We next notice we now have 8 quarks instead of 6: this indicates 8-fold symmetry (E8) is prevailing. We further notice we have 8 bosons: 4 gauge type are massless. We also notice we have 8 leptons, but only if we include the $4430 \text{ MeV } mc^2$ Majorana neutrino and the $0.5 \text{ MeV } mc^2$ archaic electron.

Inclusion of the heavy neutrino awaits the final experimental value for H_0 obtained for Hubble's constant. Inclusion of the archaic electron is required because otherwise the first cyclic universe would not have produced any mass particle at all. An archaic 33 GeV "quantum of the universe" energy packet may also have existed.

1. George R. Briggs, "Improvement of the accuracy of HCE8S theory can be accomplished simply yet strangely", ViXra 1805.0305, (2018)
2. George R. Briggs, "The most accurate method of neutron mass calculation", ViXra 1903.0301, (2019)
3. See reference #2
4. George R. Briggs, "Thanks to the Y(4140) tetraquark we have a signal that a cosmophoton is included in MHCE8S theory to permit superfast communication", ViXra 1811.0520, (2018)
5. George R. Briggs, "The digit count of a particle's mass identifies the cyclic universe in which the particle arose", ViXra 1903.0547, (2019)
6. George R. Briggs, "MHCE8S theory indicates that the energetic neutrino observed in Antarctica is a heavy (4430 MeV) Majorana neutrino", ViXra 1811.0136, (2018)