

A Standard 8-fold symmetry Model of Elementary Particles Compared To the present 6-fold symmetry Standard Model

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Abstract: The Up neutron quark is in a 2- quark format to allow its birth in the 2nd cyclic universe in 2-digit form. No Wigner, Feynman, heavy neutrino, dark neutrino, cosmophoton, archaic electron, graviton or 7th quark exists with 6-fold symmetry.

6 Quarks: all masses are MeV and 4- digits or less.

Up_{prot.}, Down_{neut.} = 2.2 (same) 2Up_{neut.} = 7.1, 7th quark
Down_{prot.} = 4.7(same) This 7th quark not in 6-fold model
Charm = 1280 (same) No Wigner quark is in the 6-fold

model

Strange = 96 (same)

Top = 173.1×10^3 (My last paper had same top quark)

Bottom = 4.180×10^3 (same) vs. $4.108 \times 10^{(2 \times 13 = 26)}$

M radius of the observable universe.

6 Bosons: 3 Massless gauge type:

No Feynman boson is in 6-fold model Photon

Higgs = 124.9×10^3 (124.97 kept to 4 digits)

Z_{weak} = 91.19×10^3 (compare with 1.19 x Gluon
 $10^{-(4 \times 13 = 52)}$ M-2 Cosmological constant) Graviton ?

W_{+, -} = 80.39×10^3 (W Majorana type, element 93
(unstable), $80 = 4 \times 20$, Wigner's magic number **20**).

6 Leptons: No cosmophoton

Electron = 0.511 Electron neutrino $< 1 \times 10^{-6}$

Muon = 105.6 Muon neutrino = 0.17

Tau = 1776 Tau neutrino = $15.5 + 2.7 = 18.2$: The

2.7 is a signal alerting us to the 10^{27} galaxies of the universe.

1 Planck's constant/Quantum of the universe = $41.35/33.91 \times$
sec = 1.219×10^{-13} sec .

No dark Majorana neutrino is in the 6-fold standard model. Also note that we have 3 exponent signals $-4 \times 13 = -52$ (cosmological constant), $2 \times 13 = 26$ (Meter radius of the observable universe), and $-1 \times 13 = -13$ (Planck's constant/quantum of the universe = 1.219×10^{-13}) sec. For the 8-fold symmetry group we have found an additional $+13$ signal (exponent = 1; see my viXra #114 of 1-31-2020: "The unlucky connection between the number 13 and 173.0 GeV measured mass of the top quark"). Note that this paper was written \sim 4-27-2020 before the top quark measured mass became 0.1 GeV heavier \sim 4-27-2020. The fact that we (8-fold symmetry now prevailing) have 4 signals involving multiples of 13 (+2, -4, -1, 1), whereas we (6-fold symmetry prevailing) had 3 signals involving multiples of 13 (+2, -4, -1) is significant.

Also significant are $41.356/33.91 = 1.219 = 12, 19$ both important signals, the 1st for the Higgs boson: 124.9 **(12+Wigner's magic number 50 minus 1)** and the 2nd for **Wigner's magic number 20 minus 1** and the **1.19** cosmological constant. **Also Planck's constant is necessary for quantum mechanics to function with 6-fold symmetry.**

The 4430 MeV heavy neutrino is not included in the 6-fold model. Neither is the archaic electron. This latter omission upsets my rule that the first cyclic universe produce a 1-digit mass particle. The 4430 MeV heavy neutrino omission is consistent with a 6 lepton 6 - fold symmetry.

Charm and strange quarks are heavier in both the 6-fold and 8-fold symmetry models to provide more unbroken symmetry time in both models. The mass was not used to increase the Wigner quark 1400 MeV provided. This error was in my last paper and should be noted.

Planck's constant = $4.1356 \times 10^{-15} = 41356 \times 10^{-19}$
(true value minus 1 less, or 41355×10^{-19}) = $(41 + 355) \times 10^{-19}$
 $= (0.41 + 3.55) \times 10^{-17} = 0.1$ Planck's constant + 3.55
 ($U_{p_{\text{neutron.quark}}}$). Planck's constant also alerts us to the speed of
 the cosmophoton, 4.108×10^3 cm/s and $4.108 \times 10^{(2 \times 13)}$
 M radius of the universe.

We also notice that we have another alerting signal $52 = 4 \times 13$ appearing in the mass 5285 of the dark Majorana neutrino of the 8-fold symmetry universe. We also have 80 and 5 signals. The 1st 52 alerts us to the correctness of the 1.19×10^{-52} cosmological constant. The 2nd 52 alerts us to the correctness of the dark Majorana neutrino mass. Also $80 = 4 \times 20$ (Wigner's magic number **20**) and 5 (Wigner's magic number **50**) alert us to the correctness of the mass of the $W_{+,-}$ boson (80.38 GeV) and the Higgs boson (125.0 GeV).

I have also noticed we have had 3 different values of the Higgs boson mass make their appearance; 125.0, (8-fold symmetry), 124.97 (6-fold symmetry), and Wigner's magic number **126** (3-digits). We next review my viXra #118 paper of 4 - 27-2020: "The recent increase of Higgs measured mass by 0.09 GeV has an important consequence". If we take 124.97 GeV (6-fold Higgs mass + 0.09 GeV = 125.06 = 125.0 (4 digits). Note that 125.1 GeV for the Higgs boson is incorrect. However Wigner's 126 was actually the discovery average mass of the Higgs (125-127 GeV).

Finally, I have noticed that the 6-fold model lacks a 2.2×10^{-6} MeV electron neutrino and if it has any electron neutrino at all it is lighter than 1×10^{-6} MeV, whereas the 8-fold model shows a definite 2.2×10^{-6} MeV - mass exists for for the electron neutrino.

I again propose Paul Steinhardt be named for the 4 cyclic universes that have occurred and Neil Turok for the 10^{27} galaxy count of the last universe of the four. Also Dan Hooper, whose book "Dark Cosmos" alerted me to the possibility of negative energy and started me to begin publishing on MHCE8S theory in the first place. Finally, I wish to acknowledge the very important E8 symmetry publication of A. Garrett Lisi and James Owen Weatherall "A geometric theory of everything".