A Revised Energy Flow Diagram is shown for an HCE8S Universe

George R. Briggs

Abstract: A revised and improved forward-time, reverse-time energy cycle of the 9th cycle of an HCE8S universe for a full loop of the cycle is shown

Using data taken from several previous notes[1,2] , I will show a time-energy flow chart for the 9th cycle of an HCE8S universe:

Time backwards UQ = universe quantum Time forwards
Unbroken E8 symmetry Broken, Holographic E8 symmetry
Entropy decreasing Entropy increasing
LE = life energy DM dark matter, DE dark energy

HCE8S Universe:

ttH +ttZ +tH +tZ fermibosons - 4 H, - 4 Z, + 12 top quarks
+ 4 antifermibosons annihilation gamma radiation
= 8 entities/galaxy-sec /galaxy-sec=4(H – Z)=4UQout@b
|| X (13.8/13.5) = X1.0222222
Energy in >> [1370.4106 GeV/ sec-galaxy] >> energy out
^ Annihilated 6 top quark pairs DM= -4H DM= -4Z
^ X10^3 sec DE 345.02(172.51)GeV| | DE | super- |
(s + c) quark = 1370.4106 MeV | | 10 x | massive |
^ c/s = (13.50) (see below) ~ | |top qk | black hole |
Scheduled collapse age of 9th | space |Higgs cancel |
universe which did not happen | xpands | ^+ 4H |
(=13.50 billion years) | 4 UQ=4(H-Z) > |
^ s quark = 94.511 MeV | @b in ^ DM= -8Z
^ LE=945.11-931.49=13.6MeV | |
^ X10 X100 = 931.49 MeV > | > > proton, atom > star
Basic matter: 2u, 1d quark~9.4 MeV | DM electron neutrino|
Unbroken symmetry ^ @ @

^ DE 345.02 (172.51)GeV @ DM=2.2x 10^-6 MeV @
^ Symmetry broken >> Big bang | DM morphs to matter |
^ << up quark = 2.3 MeV << | < < X10^6 MeV |
Unbroken symmetry | |
^ << down quark = 4.8 MeV | 0.17 MeV |
| matter muon neutrino |
| 15.5 (15.4) MeV |
| matter tau neutrino *
| X100 = 1540 MeV
| +7 x UQ/1000 =
Big bang | 1776.6747 MeV
DE becomes energy << | ~ 1776.84 MeV Tau
345.02 (172.51) GeV * lepton matter
Space communication 1.000093 (tau high)
|
+ 7 UQ/1000 (see tau lepton) >> ^
| 33.810675 GeV UQ @b
6 UQ/1000 color black only 1/32=1.0565835 GeV
+1 UQ/1000 color (QCD type!) X1/100= muon
lepton =105.658366 MeV

7 UQ/1000 = 33.810675 x 7 = 236.67472 MeV = 0.23667 GeV
+345.02 (172.51) GeV = 345.256 (172.74667) GeV total for holographic space communication (1000 or 2000 second maximum delay across the universe)

1/8 x UQ @b
Holographic bottom quark << = 4.2263343/
$(1.0222222)^{1/2}$
Non-holographic bottom quark << = 4.1802871 GeV

DE $(t + b + t_{holo}/200)$ =(172.51 + 4.1802871 + (172.51 x 1.19)/200) = 176.69028 x 1.0264345 =177.71671 GeV. Compare 1/100 this amount = 1777.1671 MeV with the mass of the tau lepton (1776.84 MeV). The ratio of the two numbers

is = 1.0001841, which indicates that this scenario is correct for universe space communication of 2000 sec/bit but it could also be correct for twice this speed (1000 sec/bit) maximum to cross the universe if the t (but not the t_{holo}) and b particles annihilating in the unbroken symmetry conditions prior to the big bang produced twice as much mc^2 energy, i.e. the initial annihilating particle pair became a single final particle of double the energy. The t_{holo} particle could only be produced in our epoch of broken symmetry so the factor 200 must be changed to 100 to compensate for this.

But let us consider the quantity 7 x UQ/1000 = 0.23667 GeV further. This quantity divided by 172.51 GeV = 0.0013718 which is very nearly 10^-5 x smaller than the inverse of the fine-structure constant alpha (1.0010508 ratio). This tells me that nature is trying to tell us that annihilation of two top quarks in the unbroken symmetry epoch era is the same as in our broken symmetry era and this means that space communication indeed requires 2000 sec per bit to travel across the universe at its maximum diameter.

Using HCE8S theory, and working backwards from the accurately known mc^2 of the muon, we can find a better value for the UQ (33.810675 GeV) and in turn (holographically) the bottom quark ($4.2263343/ (1.0222222)^{1/2}$ = 4.1802871 GeV) and most importantly, the Higgs boson (33.810675 + 91.18762) = 124.99829 GeV, which now becomes a factor only 1.0000136 lower than 125 or 1.0007336 (0.07336%) lower than the recently accepted value for the Higgs (125.09 GeV). However, the E8 universe mc^2 energy remains at 1370.4106 GeV /sec-galaxy, since only the top quark and Z particle mc^2 masses determine its value (12 x top quarks – 8 x Z's). The Higgs boson masses cancel out of the calculation through supermassive black hole action. The factor 1.0222222 still

remains, however, indicating the particle masses were updated (by whom?) at the scheduled collapse age of 13.5 billion years for the universe which did not happen.

Assuming the top quark and Z particle masses are correct then small changes are needed in the mc^2 energies of the c and s particles. We first have c + s = 1370.4106 MeV. Also c/s =13.5 and c = 13.5 x s: thus 14.5 x s = 1370.4106 and s = 94.511075 MeV. Ten times this mc^2 is to be compared to 938.272081 MeV for the mc^2 of the proton. The proton has recently[3] been found to be a factor 1.007276466583 lower in mass, or 931.49415 MeV. Thus 945.1105 – 931.49415 = 13.6166 MeV. This is the best value we have to date for the life energy LE. This is only 13.62 MeV/1370 GeV or ~ 1/100 x 0.1% of the total energy of the universe! This won't seem so terrible after you multiply by the number of active galaxies (10^27) and again by the number of seconds in 13.8 billion years (4.3549488 x 10^17) to find the actual total energy (4.355 x 10^44 GeV) to date and 4.36 x 10^40 GeV for LE. Note that LE seems to have been designed (by whom?) to be very nearly 1/100 that of the energy used (per galaxy-second) by the universe itself!

A small change (~1/2%) is still needed in the tau neutrino mc^2 mass to more exactly fit HCE8S theory: the tau neutrino needs to be reduced from 15.5 to 15.4 MeV.

The possible importance of a (t + b) type particle (like the c + s type particle involved with universe age) was discussed[4] in the previous note already referenced, and now seems to be very important for space communication. This use apparently utilizes all the heaviest quarks and leptons whereas the lighter particles relate to matter (atoms) and production of life forms.

1. “Holographic cyclic universe E8 symmetry theory indicates that Majorana neutrinos are unnecessary and that neutrinos are divided tau leptons ”, ViXra 1711.0325, (2017)

2. “The role of charm and strange quarks in holographic cyclic E8 symmetric universe theory”, ViXra 1712.0455, (2017)

3. “Precision study reveals proton to be lighter”, Cern Courier, Aug 11, 2017

4. See Ref. 1