An HCE8S Flow Diagram Incorporating the Latest Ideas

George R. Briggs

Abstract: A forward-time, reverse-time energy cycle of the 8th cycle of an HCE8S universe for a full loop of the cycle is shown incorporating my latest Ideas

Using findings taken from several previous notes[1,2], I will show the latest time-energy flow chart for the 8th cycle of an HCE8S universe:

TR time reverse QU quantum of the universe TF time forward
Unbroken E8 symmetry   Broken, Holographic E8 symmetry
Entropy decreasing   Entropy increasing
LElife energy BEbinding energy DMdark matter DEdark energy
                    HCE8S Universe:
ttH +ttZ +tH +tZ fermibosons   - 4 H, - 4 Z, + 12 top quarks
+4 antifermibosons 12top quark annihilation gamma radiation
 = 1330.88 GeV /galaxy-sec   TF/galaxy-sec=4(H – Z) = 4QU
          || 1332.29 – 1330. 88 = 1.41 GeV (see text) |
 *TF energy in>{1332.29 GeV/ sec-galaxy }>TF energy out |
 ^ = 1332.29 GeV   DM-4H DM-4Z DE 12t |
 ^$(1.022\text{--})^2$ = 1.0449382 x 1275 GeV | super- | | |
 ^ = X$(13.8/13.5)^2$ = TR>TF (see text) | massive | | |
^ TR c quark 1275 MeV | black hole | | |
^ c/s (1275/95) = 13.42 billion yrs | | | |
+ 80 mllion yrs = collapse age of 8th |Higgs cancel | | |
cyclic universe which did not happen | ^+ 4H | | |
(=13.50 billion years)   4(H-Z)=4QU **<** | **<** | < *
 ^ TR s quark = 95MeV= 94+e, anti-e (see text)   DM=-8Z |
 ^ TR u quark = 2.3 MeV   >>   *| | |
 ^ u/d = 0.4791 million years = | | |
 ^ re-ionization at universe age (see text)   X100 x 2u | |
 ^TR d quark=4.8MeV>X100 x 1d =proton (940MeV) @   @

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^ TR tau neutrino                                    @   @  4
^  15.5 MeV  (1.55 billion years cyclic            -8Z DE  QU
^   universe age difference)        >>       * |          |   |   |
^                                                |          |   |   |
^ TR muon neutrino              X100 = 1550 MeV TR |       |   |
^ 0.17 MeV (see text)           TR > TF x 1.0449382  |     |   |
^                                   =1619.65 MeV TF   |     |   |
^TR electron neutrino       +157.19 MeV LE (see text) |    |   |
^  2.2 x 10^-6 MeV              TF = 1776.84 MeV      |     |   |
^   (1.022 electron                                  |     |   |
^    mass factor)              =1776.84 MeV tau lepton |    |   |
^                        TF  +BE 103.16 MeV (see text) |    |   |
^                            TF  = 1880 MeV           |     |   |
star<atom<proton, antiproton pair (940 MeV each) |   |   |
   ^      <<        <<        <<          <<        <<   *    |   |
                                                          |   |
TR 12X(numeric) top quark DE 171.7 GeV    <<       << *   |
          Big Bang                                        |
        DE becomes visible TF energy                      |
10X(num.) 171.7 GeV   2X(num.) 171.7 GeV                  |
TF  Metric           TF space communication               |
 Space                            |                        |
 Expan     + 7/1000 x QU  = 0.23667 GeV TF                |
 sion            |                    TF 33.81 GeV QU  < |
  |      6 QU/1000 color black only   1/32 = 1.0565625 GeV |
  |      1 QU/1000 color (QCD type)  x 1/100 = muon lepton |
  |     TF universe communication << = 105.658366 MeV TF|
 *TF  universe                     (1.0000199 ratio)     |
                                                          |
 t /b = 171.7/4.180 =          TF 33.81 GeV x 1/8 x QU  < *
  41.076555 (see text)         = 4.22625/(13.8/13.5)^(1/2) =
 TR bottom quark b = 4.180 GeV          TR  4.1800603 GeV
    (1.0000144 ratio)
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The bottom quark now being 4 digits in length means that its value is unchanging and correct and is TR in type. The dimensionless ratio t/b = 41.076555. This is ~ the radius of the universe (in units of 10^26 M) at universe age 13.5 billion years = c/alpha = 137.035999139 x 2.99792458 = 41.082355. The two numbers now agree to within 1.000141. This more accurate match requires a slightly lower mass top quark of 171.7 GeV however, instead of the present 172.51. Because this value is not yet officially unchanging to more than 2 digits the muon neutrino mass is only listed (by whom!) as 2 digits in length (0.17 MeV) at present instead of a full 4 digits.

I will next discuss the multiplier factor I have found best to use in going from the TF state to the TR state. This factor is $1/(13.8/13.5)^{1/2} = 1/(1.0222222)^{1/2} = 1/1.01105$. In going from the TR state to the TF state on the other hand the factor is $(1.0222222)^2 = 1.0449382$. These two different factors have their origins in holographic theory and the time ratio required to reach back to the end of the 8th last cyclic universe (13.8 billion yrs/13.5 billion yrs).

I will first use the TR>TF factor of 1.0449382 to compute the TF energy available (1332.29 GeV/active galaxy-sec in our epoch) to disintegrate the 4 fermibosonic and 4 antifermibosonic entities of the E8 super-symmetry. This energy exceeds the mc^2 energy of the components by 1.41 GeV/active galaxy-sec. This must be sufficient since we know that the disintegration occurred!

I will next discuss the TR Strange quark of 95 MeV. This mc^2 is apparently 10X the mc^2 of (2u + 1d + 1electron) measured (by whom!) at the universe age of 13.5 billion years.

The tau neutrino is of TR type and therefore grows in mass by 100X, or 1550 MeV. This seed mass then converts to TF type (with mass increase to 1619.6542 MeV): next, an addition of mc^2 LE energy of at least 157.1858 MeV = 1776.84 MeV total goes on to disintegrate tau leptons (mc^2 energy 1776.84 MeV) and create proton, antiproton and neutron, antineutron pairs in our TF universe and eventually form protons and neutrons: these form atoms and finally stars. The stars emit electron neutrinos; these become more massive muon neutrinos and finally yet still more massive tau neutrinos (typical TR action but somehow occurring in our TF universe epoch). The cycle then repeats. The known mc^2 energy of the tau lepton tells us the LE and BE energies which are important pieces of knowledge to have.

The energy available per active galaxy-sec to disrupt the initial unbroken E8 symmetry of the 8 supersymmetric fermibosonic entities is shown on the flow diagram (1.41GeV). Presumably this is sufficient to make enough free top quarks, Higgs particles and Z particles available for the universe to function as Nature has intended it to.

The total energy/active galaxy-sec needed to supply the LE + BE + electron/antielectron mc^2 needs in our present epoch is (157.18 + 103.16 + 10) = 270.34 MeV (+ 0.11 = 270.45). It is noticed that QU x 8 = 270.48 GeV. The numerical ratio is only 1.0001109, but the magnitude is 1000 times larger. Stay tuned!

1. George R. Briggs, "A simpler yet more revealing HCE8S flow diagram ", ViXra 1804.0488, (2018)

2. George R. Briggs, "Improvement of the accuracy of HCE8S theory can be accomplished simply yet strangely", ViXra 1805.0305, (2018).