Dark Energy/Fermion Ratio Matches E8 Symmetry, Cyclic Universe Within 1/2% if Dark Matter Annihilation Gamma Emission Energy is 2(H - Z)

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Abstract: The latest experimentally measured 68.3%/26.8% dark energy/fermion mass ratio matches cyclic universe, E8 symmetry theory to within 1/2% if dark matter annihilation gamma radiation energy is 2 x 33.81 GEV. This is the positive mass-energy of 2(H – Z) bosons, and indicates that the Z dark bosons were not annihilated but were re-incorporated in positive energy form.

My last two notes[1] have concentrated on the remarkable connection between the masses of the H and Z bosons and top quark fermions and the observed mass ratio of dark energy/dark matter for the universe. These connections are completely predicted by E8 symmetry, cyclic universe theory. In this theory all quarks in our present universe were transferred from the previous universe at the time of the big bang and now constitute our total fermion and equal dark matter mass.

I have obtained even closer agreement between theory and experiment by using higher annihilation gamma radiation energy than I reported previously which may have been in error by a factor of 2. By now choosing 2x33.81GEV annihilation radiation[2], which is the energy of 2(H-Z) bosons we now get agreement to within ½%. This annihilation energy must be added to the 6 top quarks of mc^2 energy set free by 2(ttH + tH + ttZ + tZ) fermibosons (process particles) at the times of their disintergration. The energy cannot come from the 2(H+Z) original dark bosons because these have negative

energy which we cannot detect in our epoch. We must calculate 6 x 173.34 =1040.04 + 67.62 =1107.66 GEV and 2(H + Z) = 432.38 GEV and find the ratio, which is 2.56177: this remarkably matches the ratio within 1/2% of that[3] measured of 2.5485.

The dark energy must come from disruption of the fermibosons prior to annihilation of the dark matter component. Details await “top quark factories”. The “dark” connotation probably relates to the very short lifetime of the top quark.

1. viXra: 1603.0179 and 1603.0039,(2016)

2. Dan Hooper, Francis Reddy, ”Fermi telescope data tantalize with new clues to dark matter”, Uchicago, 2014/04/03

3. “Dark energy”, Wikipedia, (2016)