H- Z mass difference has changed by 8.3% in 14 billion years

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Abstract: The H-Z boson particle mass difference has increased by 8.3 % in the time interval since before the big bang. This finding indicates that these important type bosons (supersymmetric particle candidates) can be "fine-tuned" in mass to satisfy the needs of life.

Two of my recent notes[1] have concentrated on the remarkable connection between the masses of the H and Z bosons and top quark fermion and the observed mass ratio of the dark energy/dark matter (=fermionic mass in cyclic universe theory) for the universe. This connection is completely predicted by E8 symmetry cyclic universe theory, thus this theory must eventually be accepted by the physics community.

The connection is even closer if account is taken of the energy needed[2] to annihilate the negative intrinsic energy H bosons and double the number of negative intrinsic energy Z bosons. This energy is +H- Z –(H+Z) = H-Z + dark matter = 0H - 2Z. Now H-Z = 33.81 GEV. In the epoch before the big bang however, it appears to have been lower[3]: 31 GEV or 8.3%. Assuming that the uncertainty in the measurement of dark energy%/dark matter% is considerably less than 8.3%, this observation is to be believed. Even if the uncertainty is now too large, the possibility exists of reducing it in the future with better data, so that the extremely important question of "fine-tuning" in a sufficiently long time period can eventually be answered.

That “fine-tuning” can actually occur in nature has recently been suggested[4]. My observation of 8.3% fine-tuning of the mass of H-Z over roughly the age of the present universe brings up the question: is both H and Z involved in the tuning? We can answer this question by careful mass monitoring of these particles at the LHC over the next few billion years or so!

1. ViXra.org, 1605.0223 and 1605.0067, ((2016)

2. ViXra.org, 1605.0286, (2016)

3. ViXra.org, 1605.0145, (2016)

4. Lee Smolin, ‘’Time Reborn’’, (2016)