

The Significance of Broken and Unbroken E8 Symmetry Time is Shown For an MHCE8S Universe

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Abstract: Identification and separation can be made between broken and unbroken E8 symmetry time in MHCE8S Universe Theory thanks to the Z(4430) tetraquark.

In a previous note¹ I described how I thought Nature has indicated to us for how long the dense early universe was too hot to allow galaxies to form (10 million years). Since that note was written I have concluded that 4 instead of 8 cyclic universes have occurred and the total broken-symmetry age of these universes was 44.7 billion years instead of 54 billion years. More importantly, this new universe-age study has revealed that Nature appears to have given us a new and previously unidentified signal of how long the total broken symmetry period has been. This number (in tens of billions of years) appears to have been $1/100$ the mc^2 of the Z tetraquark in MeV, or 44.30 billion years. Now I had already concluded that 44.70 billion years was this age. Evidently 0.40 billion years of this age was spent having unbroken E8 symmetry. This amounts to 0.1 billion years for each of the 4 cyclic universes, or 100 million years per cyclic universe. This long with unbroken E8 symmetry is not negligible and since matter and energy that might have existed during this time was almost certainly dark to us, this could mean our long-standing dark energy and dark matter problems are just a Natural part of MHCE8S theory and fully expected.

1. George R. Briggs, "The significance of the charm quark/strange quark mc^2 ratio is shown for an HCE8S universe", ViXra 1803.0709, (2018).