

## Better Understanding of Dark matter/Dark Energy Can Result in Verification of SUSY and Confirm That We Live In a Broken E8 Symmetry Epoch

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Abstract: Unbroken E8 symmetry is required for negative  $mc^2$  bosonic matter and supersymmetry to exist and a flat, cyclic universe to form. Our present epoch is of broken E8 symmetry, which prohibits SUSY. Study of dark matter/dark energy can show that fossil negative  $mc^2$  bosonic matter formed before the big bang still exists, however.

Supersymmetry has not been found at the LHC despite a large effort<sup>1</sup>. SUSY requires that both positive and negative  $mc^2$  intrinsic energy be available for the particles, positive for the fermions, negative for the bosons. Unfortunately the negative type requires unbroken E8 symmetry for our epoch, and my work<sup>2</sup> has shown this epoch to be of broken E8 symmetry type. The LHC effort has shown attraction between fermions and positive  $mc^2$  bosons and the necessary appearance of two types of bosonic particle, known as R-parity, both signs of SUSY<sup>3</sup>.

In what way could study of dark matter/dark energy help us? Dark energy is almost certainly the shed-off negative intrinsic energy spin 0 bosonic matter coating left after bringing fermions into our new universe. Likewise, dark matter is the remaining negative intrinsic energy spin1 bosonic matter coating left after bringing in fermions. Both these entities are invisible to us because negative energy is meaningless to us.

Perhaps some way can be found to incorporate the negative intrinsic energy fossil bosons with fermions to demonstrate SUSY directly. A more practical way would be an indirect demonstration but this may not be considered sufficient for some people.

1. "supersymmetry searches: the most comprehensive ATLAS summary to date", CERN courier, Oct 28, 2015
2. ViXra.org, 1501.0172, "Negative mass-energy is real only with unbroken E8 symmetry: Briggs's answer to the Hartranft's, 2015
3. "Dark Cosmos", Dan Hooper, Collins, p. 97, 2006