

Abstract Submitted
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On Emergent Physics, Unparticles and Exotic Unmatter States

ERVIN GOLDFAIN, Photonics CoE, FLORENTIN SMARANDACHE, The University of New Mexico - Gallup — Emergent physics refers to the formation and evolution of collective patterns in systems that are nonlinear and out-of-equilibrium. This type of large-scale behavior often develops as a result of simple interactions at the component level and involves a dynamic interplay between order and randomness. On account of its universality, there are credible hints that emergence may play a leading role in the Tera-ElectronVolt (TeV) sector of particle physics. Following this path, we examine the possibility of hypothetical highenergy states that have fractional number of quanta per state and consist of arbitrary mixtures of particles and antiparticles. These states are similar to “un-particles”, massless fields of non-integral scaling dimensions that were recently conjectured to emerge in the TeV sector of particle physics. They are also linked to unmatter, exotic clusters of matter and antimatter introduced few years ago in the context of Neutrosophy.

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