

Abstract Submitted
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Unparticle, a special case of unmatter FLORENTIN SMARANDACHE, University of New Mexico — The idea of unparticle was first considered by F. Smarandache in 2004, 2005 and 2006, when he uploaded a paper on CERN web site and he published three papers about what he called “unmatter,” which is a new form of matter formed by matter and antimatter that bind together. Unmatter was introduced in the context of “neutrosophy” (Smarandache, 1995) and “paradoxism” (Smarandache, 1980), which are based on combinations of opposite entities “A” and “antiA” together with their neutralities “neutA” that are in between. In 2006 E. Goldfain introduced the concept of “fractional number of field quanta” and he conjectured that these exotic phases of matter may emerge in the near or deep ultraviolet sector of quantum field theory, as a result of non-equilibrium dynamics and the onset of complex behavior. In the TeV sector the hypothetical high energy states consist of arbitrary mixtures of particles and antiparticles, which are similar to unparticles, and thus unparticles are particular cases of unmatter. H. Georgi proposed the theory of unparticle physics in 2007 that conjectures matter that cannot be explained in terms of particles using the Standard Model of particle physics, because its components are scale invariant. Unparticles are massless fields of nonintegral scaling dimensions.

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