

Evidence of a 6.12×10^{18} GeV Particle: Geometry and Detection

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ABSTRACT

This paper reports on the results of a study examining the question: how can space and time be propagated in the form of a spacetime continuum? A mechanism is proposed which overcomes previous mathematical difficulties, enabling the derivation of equations that extend established theory and predict that the energy of the putative spacetime particle is 6.12×10^{18} GeV. The approach will be explained and the appropriate mathematical structure of complex space will be developed. The spacetime particle provides a mechanism which underpins the postulates of general relativity and quantum mechanics, as well as accounting for important cosmological observations that hitherto have been attributed to dark matter and dark energy. The existence and action of this high energy particle is corroborated by two lines of empirical cosmological measurements, and the data will be given in the presentation. While the energy of the particle is incredibly high, this magnitude is consistent with its many effects. For instance, the expansion of the Universe is caused by Compton scattering of spacetime particles. Furthermore, this expansion causes matter to freefall towards the scattered spacetime particles, thus resulting in the energy of the spacetime particle remaining constant.