

Abstract Submitted
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A Simple Model and Unified Theory of Elementary Particles and Interactions (UTOEPI) ASHOK SINHA, University of Maryland (Retired) — This paper introduces a new paradigm involving the concept of a three-dimensional time (3-D T) which, together with the usual three-dimensional space (3-D S), forms a six-dimensional space-time (6-D ST) continuum for describing super-high energy (Planck scale) elementary particle and cosmological phenomena. The inevitability of introducing such a view of the relativistic space-time continuum is highlighted for an arbitrary relative velocity between any two frames of reference. For a spherically symmetric system, this leads to the notion of a 5- sphere topology. In this framework, a heuristic model and a simple theory of elementary particles and the four basic interactions (strong, weak, electromagnetic and gravitational) is developed, including a simplistic parametric representation of the elementary particle masses in terms of the basic parameters of these interactions, in linear and quadratic approximations. The questions of supersymmetry and the Higgs field are briefly discussed as self-consistent extensions of the model. Development of a statistical theory (Maxwell-Boltzmann Equation) of a relativistic ensemble of quark-gluon type plasma in the conventional manifestly 4-covariant and the new manifestly 6-covariant frameworks is also formulated to indicate the interrelations among the four interactions in a simple manner.

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