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The Strained State Cosmology

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Space-time as a four-dimentional continuum has an evident similarity with ordinary three-dimensional continua, apart from the Lorentzian signature of the metric tensor. Since it has physical properties related to its interaction with matter, the analogy suggests that it can behave as elastic continua do, provided that general covariance is preserved. The theory that will be presented describes how to implement these ideas into a formally consistent cosmological scenario. The theory successfully accounts for the accelerated expansion and turns out to be consistent with a number of typical cosmological tests such as light elements abundances, acoustic horizon of the CMB, large scale structure formation and SnIa luminosity/redshift dependence.

Primary author: Prof. TARTAGLIA, Angelo (Politecnico di Torino)

Presenter: Prof. TARTAGLIA, Angelo (Politecnico di Torino)

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