ΑΡΙΣΤΟΤΕΛΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΤΜΗΜΑ ΦΥΣΙΚΗΣ

ΣΕΜΙΝΑΡΙΟ

ΤΟΜΕΑΣ ΑΣΤΡΟΦΥΣΙΚΗΣ, ΑΣΤΡΟΝΟΜΙΑΣ ΚΑΙ ΜΗΧΑΝΙΚΗΣ

Θέμα: **"f(T) Gravity and Cosmology"**

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Ώρα: **14:00**

Περίληψη:

Torsion has been proved to be crucial in gauging gravity, which is in turn a necessary step towards its quantization. On the other hand, almost all the efforts in modifying gravity has been performed in the usual curvature-based framework. We investigate the case where one modifies gravity based on its simplest torsional-teleparallel formulation, namely the f(T) gravity paradigm, and its cosmological applications. In particular, we analyze the perturbations of the theory examining the growth history, we construct a cosmological bounce, and we use solar system observations in order to impose constraints on the f(T) forms. Additionally, we study the case where T is nonminimally coupled to a scalar field, that is the scenario of "teleparallel dark energy". Finally we analyze the charged black hole solutions of the theory, performing a comparison between f(R) and f(T) modifications.