

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 19.10.2017, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Prof. Joan Sola Peracaula

(Institute of Cosmos Sciences, Univ. of Barcelona (Spain))

100 years of the cosmological constant, Λ , in Einstein's equations: Is Λ really constant in light of observations?

In this colloquium, I will review some historical aspects of the cosmological constant term in Einstein's equations, Λ , which is one of the fundamental ingredients of Λ CDM, the standard model of cosmology. Such term is usually associated to the energy density of the cosmic vacuum, and is assumed to be strictly constant. I will assess if this assumption is still tenable in the light of the modern cosmological data, in particular the possibility that the cosmic vacuum is slightly dynamical, i.e. time-dependent. Upon quantitatively comparing the performance of specific realizations of this option against the traditional Λ CDM model, I will conclude that vacuum dynamics can provide a substantially better description of the overall cosmological observations.

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