

**Resumen:** Lorentz invariance is a cornerstone of quantum field theories and general relativity. To date, no violation of such a symmetry has been experimentally detected. Nevertheless, certain quantum gravity theories possess mechanisms that can lead to deviations from Lorentz invariance, particularly effects arising from modifications of space-time are expected to appear at distances of the order of the Planck length. In this talk, I will review some motivations, characteristics and consequences of a breakdown of Lorentz invariance. Models, and effects, that introduce a spontaneous Lorentz symmetry breaking will be discussed. In particular, a short survey and results on the Plebanski model, the Casimir effect and propagation of optical beams will be presented.



Lugar : Edificio AT Salón de Seminarios Leopoldo García Colín (AT – 002)

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