De *Madrid* al *Cosmos*

Quantum corrections to the Higgs potential on a curved background

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Abstract: I will present recent results on finite gravitational corrections to the Higgs effective potential. In particular, 1-loop corrections due to the Higgs self-interactions are computed in a perturbed FRW background by mode summation. For this aim, the Klein-Gordon equation is solved to first order in perturbations and to zero order in the adiabatic approximation.

Dimensional regularization techniques are used to compute not only the divergent parts of the effective potential but also the finite ones. The obtained results amount to the presence of inhomogeneities in the Higgs vacuum expectation value which translate into variations on the masses of elementary particles. Possible observable signatures within the Solar System and on cosmological scales will be discussed.

Lunes 04 de abril, 16:00 h.
Sala de Seminarios FT-I
Facultad de CC. Físicas, UCM

Ciclo de seminarios organizado conjuntamente por los grupos
- *Teorías Efectivas en Física Moderna* (UCM)
- *Gravitación y Cosmología* (IEM-CSIC)

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