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On the physical origin of the cosmological constant: planckian fluctuations, decoherence scale and comparison with the Casimir effect.

Friday, October 18, 2019 11:30 AM (30 minutes)

In this talk I present a new proposal concerning the nature of the cosmological constant depicted in terms of Planckian fluctuations.

A semi-classical model is presented with a Planckian generalization of the quasi local Misner-Sharp energy.

The observed (dressed) value of Λ is fixed at the scale such that an absolute positive minimum for the generalized Misner-Sharp energy is reached: the new physical scale represents the decoherence one at which the crossover to classicality is obtained.

Finally, a comparison with the Casimir effect is discussed.

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