



Universidad del País Vasco
Euskal Herriko Unibertsitatea
The University of the Basque Country

Seminarios de Física Teórica Fisika Teorikoa: Hitzaldiak

Dark Matter Axion Clumps

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Abstract In this talk I begin by reviewing how dark matter axions can undergo Bose-Einstein condensation and why this is captured by classical field theory. I explain that such condensates are spatially localized clumps, as they are organized by gravitation and self-interactions, and they may populate the galaxy. I discuss both the ground state and finite angular momentum states. I then discuss the possibility of parametric resonance of these axion clumps into electromagnetic waves, which may leave an astrophysical signature. Also, I comment on using ultra-light axions to resolve the core-cusp problem at the center of galaxies.

Prof. A. Chamorro Seminar Room, Dept. of Theoretical Physics, Corridor 4.-2.

Wednesday, Sept. 26th, 2018

Time:11:40 am