

SEMINARIO
Departamentos de Física Teórica I y II
Universidad Complutense de Madrid

CONFERENCIANTE: Mercedes Martín-Benito

Institute for Mathematics, Astrophysics, and Particle Physics. Radboud University Nijmegen, The Netherlands

TITULO: Modeling effective FRW cosmologies with perfect fluids from states of the hybrid quantum Gowdy model

LUGAR: FACULTAD DE CIENCIAS FÍSICAS UCM

DÍA: 8 de enero, 2015 (Jueves)

HORA: 14:30

AULA: Seminario Depto. Física Teórica II, Planta 2ª

ABSTRACT:

We employ recently developed approximation methods in the hybrid quantization of the Gowdy model with three-torus topology, linear polarization and a massless scalar field, to obtain physically interesting solutions of this inhomogeneous cosmology. More specifically, we propose approximate solutions of the quantum Gowdy model constructed in such a way that, for the Hamiltonian constraint, they effectively behave as those corresponding to a flat homogeneous and isotropic universe filled with a perfect fluid, even though these quantum states are far from being homogeneous and isotropic. We analyze how one can get different perfect fluid effective behaviors, including the cases of dust, radiation, and cosmological constant.