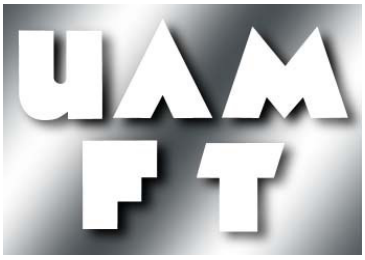

COLOQUIOS PACO YNDURÁIN 2009/10
Departamento de Física Teórica

Miércoles, 19 de Mayo de 2010, 15 h.
Facultad de Ciencias, Sala de Conferencias Módulo 00

Dark Energy and Cosmic Sound

Prof. Daniel Eisenstein
University of Arizona

Abstract: I will discuss how the acoustic oscillations that propagate in the photon-baryon fluid during the first million years of the Universe provide a robust method for measuring the cosmological distance scale. The distance that the sound can travel can be computed to high precision and creates a signature in the late-time clustering of matter that serves as a standard ruler. Galaxy clustering results from the Sloan Digital Sky Survey reveal this feature, giving a geometric distance to a redshift of 0.3 and an accurate measurement of Ω_{matter}. I will review our recent work on the theoretical modelling of the shifts and scatter of the acoustic scale in N-body simulations. I will present the SDSS-III project, which will use the acoustic method to produce 1% distance measurements in order to map the curvature and expansion history of the Universe and measure the evolution of dark energy.

Más información: http://www.ft.uam.es/docencia/seminarios.html