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Mega-spectroscopic galaxy surveys:

a tool to measure neutrino masses and its hierarchy

Dr. Raul Jimenez (University of Barcelona)

Dr. Raul Jimenez holds an ICREA chair in physics at the University of Barcelona (Spain). After obtaining a BSc and MSc in theoretical physics from the Universidad Autonoma de Madrid in 1992 he got a Marie Curie EU fellowship to do a PhD in Copehagen at the NBI/Nordita complex, which he finished in 1995. He is a theoretical astrophysicist and cosmologist interested in a number of problems in fundamental physics, cosmology and astrophysics. His topics of research include: galaxy formation and evolution, high-redshift galaxies, dark energy, stellar evolution, the age of the universe, data analysis techniques, non-gaussianity and the primordial density field, the cosmic microwave background, clusters of galaxies, inflationary physics and the early universe.

Abstract

We are at an epoch where ground based facilities are providing an ever larger sample of galaxy redshifts and their spectra. One of those is LAMOST. In this talk I will describe what fundamental physics can be learned from these surveys. In particular I will focus on the fact that they are the best tool we have to measure reliably neutrino masses, but also to unveil the hierrachy and thus shed light on the nature of the neutrino itself.

All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).