

ASTRONOMY SEMINAR

January 4, 2011

Speaker: Prof. Marie-Noelle Celerier

Observatoire de Paris-Meudon, France

Title: What do large scale inhomogeneities imply for cosmology?

Day, Date & Time: Tuesday January 10, 2012 at 1600 hrs

Venue: TAP Seminar Room (A269)

(A. Gopakumar)

Abstract

It is currently a widely spread belief that we have now entered an era of precision cosmology. A huge set of cosmological data is actually available and, when analyzed in the framework of an FLRW model, they allow us to constrain its parameters up to less than a few percents. However, the resulting LCDM model, despite its actual successes, implies that 95% of the content of the Universe is physically unknown. Since we are physicists, we want not only to be able to reproduce the data, but also to understand the physics behind them. Besides several other proposals which can be found in the literature, we are interested here in studying the effect of large scale inhomogeneities on the geometry and on the dynamics of the Universe and to determine at which level they can possibly modify the current standard concordance cosmological model.