



LABORATORY of
INFORMATION
TECHNOLOGIES

SEMINAR
of COMPUTATIONAL
PHYSICS

Friday, 20 September 2013, 11.00
Room 407

Anirudh Pradhan (V.B.S. Purvanchal University, Jaunpur, India),
Bijan Saha (LIT, JINR), **Hassan Amirhashchi** (Department of Physics, Islamic
Azad University, Mahshahr, Iran)

**Accelerating Dark Energy Models of the Universe in Anisotropic
Bianchi Type Space-Times and Recent Observations**

In the present study of Bianchi type- I, II, III, V and VI_0 space-times, we observe that the EoS for dark energy ω is found to be time-dependent and its existing range for derived models is in good agreement with the recent observations of SNe Ia data (Knop et al. in *Astrophys. J.* 598:102, 2003), SNe Ia data with CMBR anisotropy and galaxy clustering statistics (Tegmark et al. in *Astrophys. J.* 606: 702, 2004) and latest combination of cosmological datasets coming from CMB anisotropies, luminosity distances of high red-shift type Ia supernovae and galaxy clustering (Hinshaw et al. in *Astrophys. J. Suppl.* 180:225, 2009, Komatsu et al. in *Astrophys. J. Suppl.* 180:330, 2009). It has been suggested that the dark energy that explains the observed accelerating expansion of the universe may arise due to the contribution to the vacuum energy of the EoS in a time dependent background. The cosmological constant Λ is found to be a positive decreasing function of time and it approaches to a small positive value at late time (i.e. the present epoch) which is corroborated by results from recent type Ia supernovae observations.