



Physical Research Laboratory, Ahmedabad

Colloquium 15-03

- Speaker:** Prof. Rajat K. Bhaduri
Visiting Professor, IMSc, Chennai, India.
- Title:** “Dark Matter (DM) and Dark Energy (DE) from a Bose-Einstein Condensate”
- Time:** Wednesday, 04 February 2015, 16.00 hrs.
- Venue:** K. R. Ramanathan Auditorium, PRL

Abstract

We first point out the necessity of Dark Matter and Dark Energy (DE) to explain the experimental data. We postulate that cold DM may be in the form of a Bose-Einstein Condensate (BEC) of ultra-light bosons, whose macroscopic wave function has a range comparable to the size of the visible universe. This BEC wave function gives a Bohm potential that contributes a DE term to the equation of motion of the Friedmann universe. The resulting "cosmological constant" has the right order of magnitude.

The Speaker

Prof. Rajat K. Bhaduri did his M.Sc. from Calcutta University and Ph.D. from the McMaster University, Hamilton, Canada. His current research interests are on Geometric scaling in the spectrum of an electron bound to an electric dipole, Fermionic atoms at unitarity and Haldane exclusion statistics, quantum density of states and partitioning an integer, and entropy of a black hole. He is well known for his books titled “Models of the Nucleon: From Quarks to Soliton” and “Semiclassical Physics”.

Tea at 15:30 hrs.

ALL ARE WELCOME

