

ASTRONOMY SEMINAR

April 15, 2011

Speaker : Anya Chaudhuri
DAA-TIFR

Title : The universal pressure profile of galaxy clusters and cluster physics

Day, Date & Time : Tuesday, 19 April, 2011 at 16.00 hrs

Venue : Lecture Theatre (AG-66)

(A. Gopakumar)

Abstract

Recently REXCESS (Representative XMM-Newton Cluster Structure Survey) galaxy clusters have been observed to have a universal pressure profile. This has for instance been used to calculate SZ scaling relations in the Planck "early results". Such relations occupy an important place in cosmological galaxy cluster studies.

Such observations of the pressure profile give clues to the underlying physics in clusters. I will talk about a phenomenological model, with various parameters for the concentration of the cluster, the temperature profile and the "non-thermal" pressure in clusters and discuss preliminary results involving the conc-mass relation and the amount of non-thermal pressure in these clusters.