Area Seminar

Title	Lee-Wick thermodynamics and its cosmological implications
Date and Time	28/09/2012 16:00:00
Speaker	Dr. Suratna Das TIFR, Mumbai
Area	Theoretical Physics
Venue	Room No. 469
Abstract	Lee-Wick fields were first introduced in the literature as a regulator field to tame the divergences in QED. Recently this theory is used in an extended standard model to solve the "Hierarchy Problem". In this talk the high-temperature behaviour of such Lee-Wick fields will be discussed. It would be shown that at high temperatures these Lee-Wick fields lead to negative energy density and pressure. But, being regulator fields, they are always accompanied with standard particles. Thus the total energy density and pressure of particles and their Lee-Wick partners turn out to be positive and yield a fluid with state parameter ?=1. In the second part of the talk it would be shown that such a fluid can dominate the universe just before the standard radiation domination era sets in.