

# Department of Theoretical Physics

## Special Free Meson Seminar

<i>Speaker</i>	:	Anjishnu Sarkar (IOP, Bhubaneswar)
<i>Topic</i>	:	Left-Right supersymmetric extension of Standard Model and its Cosmological Signatures
<i>Day, Date &amp; Time</i>	:	Friday, January 15, 2010 at 2:30 p.m.
<i>Place</i>	:	Theoretical Physics Seminar Room (A304)

### *Abstract*

We consider salient cosmological features of a left-right supersymmetric extension of standard model. The requirement of breaking parity and also obtaining charge preserving vacua introduces some unique features to this model (MSLRM), resulting in a preference for non-thermal leptogenesis. Assuming that the model preserves TeV scale supersymmetry, we show that the vacuum structure generically possesses domain walls, which can serve two important purposes. They can signal a secondary inflation required to remove unwanted relics such as gravitino and moduli and also generate lepton asymmetry by a mechanism similar to electroweak baryogenesis. The requirement of disappearance of domain walls imposes constraints on the soft parameters of the theory, potentially testable at the TeV scale.

*(Nilmani Mathur)*