Department of Theoretical Physics

Special Free Meson Seminar

(Through Skype)

Speaker	:	Ranjita K Mohapatra (Institute of Physics, Bhubaneswar)
Topic	:	Z(3) domains and their effects in confinement-deconfinement phase transition
Day, Date & Time	:	Friday, July 27, 2012 at 11:30 a.m.
Place	:	Theoretical Physics Seminar Room (A304)

Abstract

We study the formation of Z(3) domains in a confinement- deconfinement phase transition in relativistic heavy-ion collisions. The transition is modelled in the framework of Polyakov loop which provides an order parameter for the transition. Existence of different Z(3) domains can lead to the formation of Z(3) interfaces and associated QGP strings. We study the formation of these topological objects using a first order transition (as appropriate for large chemical potential situation) as well as using a quench which is likely to be the case for relativistic heavy-ion collisions especially due to rapid initial thermalization. Coarsening of Z(3) domain structure, Z(3) walls and strings are studied. These can have important observational implications, e.g. in terms of modified momentum distributions of particles, and multiplicity fluctuations.

(Nilmani Mathur)