

### Area Seminar

Title           Studies of Reheating after inflation through  $f(?)R$  gravity

Date and      12/07/2013 16:00:00  
Time

Speaker       Arun Kumar Pandey  
                 Senior Research Fellow  
                 PRL, Ahmedabad

Area           Theoretical Physics

Venue          Room No. 469

Abstract       Inflation is essential building block of the standard model of cosmology and has passed a number of stringent observational tests. Any inflation models must contain a mechanism by which the universe re-heats after inflation. The reheating mechanism requires details knowledge of interactions between inflaton fields and their decay products. Since the physics behind inflation is beyond the standard model of elementary particles, the precise nature of inflaton fields is currently undetermined, and the coupling between inflaton and matter fields is often put by hand. It has been found that, reheating can occur spontaneously without introducing any extra interaction between inflaton and the decay products, if inflaton is coupled nonminimally with gravity. So in this case, it is found that, inflaton field coupled with gravity nonminimally can give another channel for decay. So in this seminar, I will first discuss about reheating and then will present the reheating through a  $f(?)R$  gravity