

Department of Theoretical Physics

Free Meson Seminar

<i>Speaker</i>	:	Pomita Ghoshal
<i>Topic</i>	:	Aspects of mass hierarchy determination with atmospheric neutrinos
<i>Day, Date & Time</i>	:	Thursday, December 11, 2008 at 2:30 p.m.
<i>Place</i>	:	AG 69

Abstract

The possibility of determining the neutrino mass hierarchy using atmospheric neutrinos as well as with long-baseline experiments has been well studied in the regime of large matter effects and a large mixing angle θ_{13} . I will present the results of our study of a Liquid Argon detector for hierarchy determination in this regime. I will also review the chances of determining the hierarchy in the event of θ_{13} being vanishingly small. I will discuss the complications that arise in this scenario which make this goal difficult, and some possible methods that have been suggested to overcome them.

(Saumen Datta)