Area Seminar

Title	Status of 8-fold degeneracy after theta_13 discovery
Date and Time	30/06/2014 16:00:00
Speaker	Newton Nath PRL
Area	Theoretical Physics
Venue	Room No. 469
Abstract	Standard 3-flavor neutrino oscillations depend on 6-oscillation parameters, namely 3-mixing angles(theta_13, theta_12, theta_23), 2-mass squared differences (Delta_m^2_21, Delta_m^2_31) and 1 CP -phase (delta_cp). In 1990s neutrino oscillations phenomenon were confirmed by different neutrino experiments like SK, SNO indicating that neutrinos do possess non-zero tiny mass. Today neutrino physics has reached an era of precision measurement. In this talk, I will discuss different parameter degeneracies present in the neutrino oscillation probability, collectively called 8-fold degeneracy. Muon neutrino survival probability (P_mu_mu) is sensitive to sin^2(2 theta_23) and sin^2(Delta_m^2_31 L/4E) this leads to two degeneracies, whether theta_23 is < 45^0 or > 45^0 and Delta_m^2_31>0 or