

Theoretical Physics Seminars

Effect of Long Range Force on Neutrino Oscillations

Speaker: Mr. Kaustav Chakraborty

From: Physical Research Laboratory, Ahmedabad

When: July 11, 2017 Tuesday 4:00 pm

Place: Room No. 469

Neutrino oscillation physics has been well studied under the framework of interactions governed by the Standard Model gauge group. But this gauge group can be extended to include an extra anomaly free $U(1)$ symmetry $L_e - L_\mu$, $L_e - L_\tau$ or $L_\mu - L_\tau$. Hence, the new gauge group becomes $SU(3)_C \otimes SU(2)_L \otimes U(1)_Y \otimes U(1)_X$. Under this new gauge group an extra Z' boson is introduced, which, if sufficiently light will provide a Long Range Force which can significantly contribute to Neutrino Oscillations. I will discuss the theoretical and phenomenological aspects of Neutrino Oscillations under the effect of this Long Range Force.

All are welcome