PHOENIX-2023



Contribution ID: 19

Type: Talk

Exploring Prospects on an U(1) Lmu – Ltau Extra Dimensional Model by DUNE Near Detector

Wednesday 20 December 2023 16:45 (15 minutes)

Extra dimensions (ED) offer a valuable tool for constructing intricate models and exploring potential new physics phenomena. Our focus is to extand Standard Model (SM) by introducing an U(1) Lmu – Ltau gauge group in the framework of ED, which serves as a compelling initiative aimed at addressing the muon (g – 2) anomaly. In this model, only the Kaluza-Klein (KK) modes of the extra dimensional gauge boson traverse the bulk, while Standard Model particles remain localized on the SM brane . To validate our model, we rigorously looking at the prospects from the incoming DUNE Near Detector experiment on neutrino-electron elastic scattering. Looking ahead, this methodology holds the promise of generating unique signatures that align with constraints from diverse experiments such as CHARM-II and thereby offering a new way to investigate the structure of an extra spacetime dimension.

Designation

Student

Reference publication/preprint

Institution

Shiv Nadar Institute of Eminence Deemed to be university, Greater Noida

Author: KAUSHIK, Ayushi (SHIV NADAR UNIVERSITY, GREATER NOIDA)

Co-authors: Mr CHATTERJEE, Arindam (SNIoE Deemed to be university); Mr CHAKRABORTY, Dibyendu (SNIoE Deemed to be university); Mr NISHIWAKI, Kenji (SNIoE Deemed to be university)

Presenter: KAUSHIK, Ayushi (SHIV NADAR UNIVERSITY, GREATER NOIDA)

Session Classification: Parallel: BSM + Cosmology