



PPD Seminar

Neutrino Interactions and Oscillations: Modelling Neutrino Cross Section Uncertainties for Fundamental Physics Kamil Skwarczynski (RHUL)

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The long-baseline neutrino oscillation experiments T2K (Tokai to Kamioka) in Japan and NOvA in the United States have recently performed a joint analysis, providing the most precise measurement to date of $\Delta m^2_{32} = 2.48_{-0.03}^{+0.04} \times 10^3$ eV² in inverted ordering. Achieving this level of precision requires careful control of systematic uncertainties, particularly those associated with the modelling of neutrino–nucleus interactions. This seminar will present an overview of neutrino interaction modelling and discuss the strategies used to constrain the associated uncertainties in long-baseline oscillation analyses.

