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Detecting CP Violation in the Presence of Non-Standard Neutrino Interactions

Friday, 1 June 2018 17:00 (25 minutes)

New physics beyond the Standard Model could appear at long baseline oscillation experiments as non-standard interactions (NSI) between neutrinos and matter. If so, determination of the CP-violating phase δ_{13} is ambiguous due to interference with additional complex phases. I'll present my work using both numerical solutions and a perturbative approach to study oscillation probabilities in the presence of NSI. I'll show how the CP phase degeneracies are visualized on biprobability plots, and the extent to which the energy spectrum for a given baseline length can help resolve them.

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