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## Poster Session – Submission of Abstract

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Title of the poster: Probing the leptonic Dirac CP-violating phase in neutrino oscillation experiments (poster # 031013)

Abstract: The discovery of leptonic CP violation is one of the primary goals of next-generation neutrino oscillation experiments, which is feasible due to the recent measurement of a relatively large leptonic mixing angle  $\theta_{13}$ . We suggest two new working observables  $\Delta A_{\alpha\beta}^m \equiv \max[A_{\alpha\beta}^{\text{CP}}(\delta)] - \min[A_{\alpha\beta}^{\text{CP}}(\delta)]$  and  $\Delta A_{\alpha\beta}^{\text{CP}}(\delta) \equiv A_{\alpha\beta}^{\text{CP}}(\delta) - A_{\alpha\beta}^{\text{CP}}(0)$  to describe the CP-violating effects in long-baseline and atmospheric neutrino oscillation experiments. The former signifies the experimental sensitivity to the leptonic Dirac CP-violating phase  $\delta$  and can be used to optimize the experimental setup, while the latter measures the intrinsic leptonic CP violation and can be used to extract  $\delta$  directly from the experimental observations. Both analytical and numerical analyses are carried out to illustrate their main features. It turns out that an intense neutrino beam with sub-GeV energies and a baseline of a few 100 km may serve as an optimal experimental setup for probing leptonic CP violation.