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### P3.016 Source, detector and matter non-standard interactions at DUNE

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Non-standard interactions (NSIs) of neutrinos arise in various models of physics beyond the Standard Model. These interactions can affect the production, detection and propagation of neutrinos through matter and can therefore be probed by long-baseline oscillation experiments. In this work, we study the possibility of probing source, detector and matter NSIs using the proposed DUNE experiment.

DUNE has been shown to have exceptional capability in measuring the unknown oscillation parameters, especially the Dirac-CP phase. We study the effect of NSIs on the measurement of the CP phase and the mixing angle  $\theta_{23}$  at DUNE. For this, we adopt the most general approach, which is to consider all possible NSI parameters together. Some interesting parameter correlations between the standard parameters, source/detector NSI parameters and matter NSI parameters are highlighted. We also determine the bounds that DUNE can impose on the values of the various NSI parameters, and compare them with the existing bounds.