Contribution ID: **511** Type: **Poster sterile**

The 3+1 Neutrino Model at NOνA and DUNE

We investigate the impact of a light sterile neutrino ($\sim$1eV) on the data expected
from currently running LBL experiment NOνA and future experiment DUNE. If an eV scale sterile neutrino exists, and has non-zero mixing with the other neutrinos then nature of the predictions for the mass hierarchy, CP-violation and octant by these two experiments will be modified. Parameter degeneracy resolution is key in oscillation physics as there are a multitude of them that make distinguishing results difficult. In the 3ν case, for certain favoured combinations of δ_{13} and the sign of Δm^2_{31}, NOνA can resolve the MH and octant degeneracies. On the other hand, DUNE should have no problem with these degeneracies once is is complete and running. It is interesting then, in light of recent data showing favourable true values, to analyse the effect of adding a light sterile neutrino and to see whether sensitivity to any of these degeneracies is lost.

Session and Location

Monday Session, Poster Wall #150 (Hölderlin-Room)

Poster included in proceedings:

no

Primary author: Mr MATTHEWS, Zachary (University of Adelaide)

Presenter: Mr MATTHEWS, Zachary (University of Adelaide)

Track Classification: Poster (not participating in poster prize competition)