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## Neutrino Trident Production at the Intensity Frontier

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SHiP and DUNE are future high intensity neutrino experiments, both of which generate a very large flux of neutrinos and anti-neutrinos of all 3 flavours. Combined with improved detector technology, their high luminosity means that these experiments are sensitive to subdominant neutrino physics. Neutrino trident production is one such process, which sees an incoming neutrino incident on a nucleus produce an outgoing neutrino and two oppositely charged leptons. In this talk we will show that the standard model rates at SHiP and DUNE allow for a number of trident mixed-flavour modes, most of which have never been observed. Some of these mixed-flavour modes have production cross sections as high as 35 times those previously considered by CHARM-II and CCFR, the latter of which currently provides the most stringent bound on certain  $Z'$  models. This suggests that with future experiments trident can serve as a useful tool in the study of BSM physics. As an example we study the constraints to generic leptophilic scalar extensions of the standard model.

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