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Neutrino trident production at near detectors

The large statistics expected at the near detectors of neutrino oscillation experiments opens up the possibility to search for rare neutrino interactions. One example is neutrino trident production, the scattering of a neutrino by the Coulomb field of a nucleus producing a pair of charged leptons. In this talk, I will revisit the calculation of the trident scattering rate, addressing certain inconsistencies in the literature and presenting revised predictions for the total and differential event rates for relevant experiments. I will then argue that backgrounds can be kept under control and that certain channels could be seen for the first time at these facilities. Finally, I will dedicate some time to discuss what kind of of new physics one can look for in these processes.

Primary author: Mr HOSTERT, Matheus (IPPP, Durham University)

Presenter: Mr HOSTERT, Matheus (IPPP, Durham University)

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