



Contribution ID: 354

Type: **Oral**

Coherent Pion Production in the NOvA Near Detector

Neutrinos can occasionally interact coherently with an entire nuclear target. Such interactions can produce a single meson, which will generally have a direction that is nearly collinear with the incoming neutrino. The NOvA collaboration is performing multiple analyses to measure the cross-section for such interactions, as they can pose a background to electron neutrino appearance in long baseline experiments attempting to measure θ_{13} . Both NC (Neutral Current) and CC (Charged Current) coherent pion production are being studied, and the NC analysis will be published soon. The study of coherent neutrino interactions can give us better insight into the nature of the weak force, and in the validity of PCAC (Partially Conserved Axial-Vector Current), used to model the coherent pion production.

Primary authors: Mr KULLENBERG, Christopher (JINR); Dr DUYANG, Hongyue (University of South Carolina); Prof. MISHRA, Sanjib (University of South Carolina)

Presenter: Mr KULLENBERG, Christopher (JINR)

Track Classification: High Energy Physics