

A 185 kg NaI[Tl] Detector for Observing the Charged-Current Neutrino Interaction on ^{127}I

A 185 kg NaI[Tl] detector has been deployed to the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory (ORNL) to measure the charged-current neutrino interaction cross section on ^{127}I . Results from an initial run will be shown, as well as improvements from a recent upgrade in which muon vetos were deployed to reduce backgrounds. In addition to measuring the charged-current interaction, the 185 kg detector is also measuring low energy backgrounds in the region of interest for observing coherent elastic neutrino-nucleus scattering of ^{23}Na nuclei. A tonne-scale version of the detector is currently being developed with the capability to simultaneously observe these two interactions.

Authorship annotation

for the COHERENT collaboration

Session and Location

Wednesday Session, Poster Wall #101 (Auditorium Gallery Left)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)