



**38th INTERNATIONAL CONFERENCE
ON HIGH ENERGY PHYSICS**

AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: 409

Type: **Poster**

Backgrounds to Nucleon Decay in DUNE

Monday 8 August 2016 18:30 (2 hours)

The Deep Underground Neutrino Experiment (DUNE) will search for nucleon decay as one of its primary physics goals. Understanding the processes that mimic nucleon decay is critical, as these backgrounds affect the experiment's reach and sensitivity. The backgrounds to nucleon decay can arise from atmospheric neutrino interactions and from cosmic ray interactions that result in neutral particles entering undetected into the fiducial volume and charge exchanging or decaying to mimic nucleon decay. DUNE will be particularly sensitive to SUSY-favored nucleon decay modes that involve kaons in the final state, and therefore also to cosmogenically induced backgrounds to those modes. Progress in studies of cosmogenic backgrounds to DUNE nucleon decay searches will be presented.

Presenter: WARBURTON, Thomas (University of Sheffield, UK)

Session Classification: Poster Session

Track Classification: Detector: R&D and Performance