



Contribution ID: 32

Type: **Poster**

Search for "kaon plus nothing" at MINERvA

Supersymmetric Grand Unified Theories predict proton decay with $p \rightarrow K^+ \text{ anti-}\nu$ as the dominant channel. Searches in water Cherenkov detectors like Super-Kamiokande are complicated by the fact that the K^+ is below threshold. Since only the K^+ decay products are observed, backgrounds arise from K^+ production by atmospheric neutrinos where all primary final state particles are below threshold. MINERvA identifies these events by reconstructing the time difference between the kaon and its decay products, and expects to be able to constrain the rate of such neutrino-induced backgrounds. The current status of this analysis is presented.

Primary author: MARSHALL, Chris (University of Rochester)

Presenter: MARSHALL, Chris (University of Rochester)

Track Classification: Neutrino Interactions