

Muon-Induced Backgrounds in DM-Ice NaI(Tl) Dark Matter Detectors

Tuesday, 5 May 2015 15:15 (15 minutes)

DM-Ice is a NaI(Tl) experiment searching for an annually-modulating dark matter signal. The DM-Ice17 detector has successfully operated in the South Pole ice for three years, and R&D efforts for the full-scale detector are underway at FNAL and the Boulby Underground Laboratory. I present an analysis of the muon background in DM-Ice, including long-lived phosphorescence observed in both DM-Ice17 and DM-Ice37. The DM-Ice17 muon analysis also includes events that are coincident with IceCube. The expected annual modulation in the rate of muons is observed.

Primary author: HUBBARD, Antonia (University of Wisconsin, Madison)

Presenter: HUBBARD, Antonia (University of Wisconsin, Madison)

Session Classification: Dark Matter

Track Classification: Dark Matter (Theory / Experiment)