

MONOLITH: A MASSIVE MAGNETIZED IRON DETECTOR FOR ATMOSPHERIC NEUTRINOS

MONOLITH Collaboration

MONOLITH is a proposed massive (34 kt) magnetized tracking calorimeter at the Gran Sasso laboratory in Italy, optimized for the detection of atmospheric muon neutrinos. The main goal is to establish (or reject) the neutrino oscillation hypothesis through an explicit observation of the full first oscillation swing. The Δm^2 sensitivity range for this measurement comfortably covers the complete Super-Kamiokande allowed region. Other measurements include studies of matter effects, the NC up/down ratio, the $\bar{\nu}/\nu$ ratio, the study of cosmic ray muons in the multi-TeV range, and auxiliary measurements from the CERN to Gran Sasso neutrino beam.