

Discrimination of Muon Bundles from Single Muons in IceCube

Monday, 25 May 2026 12:15 (15 minutes)

The search for neutrino sources in IceCube has focused primarily on IceCube's northern sky, with the advantage that the Earth serves as a filter for the atmospheric muon background and provides a large effective volume. I would like to give a 5 - 10 min talk on my project which explores a new method for classifying atmospheric muon bundles and single muons with the goal of efficiently rejecting muon bundles and providing a first step towards a high-purity data selection for a neutrino source analysis in IceCube's southern sky. The GNN is ideal for this contribution as the topic and especially the method used could be relevant for other neutrino telescopes.

Primary author: SCHOLZ, Alexandra (Technical University of Munich (TUM))

Presenter: SCHOLZ, Alexandra (Technical University of Munich (TUM))

Session Classification: Topical Sessions

Track Classification: Analysis Tools, ML Algorithms, Low-Level Reconstructions, Triggers, ...