

Methods for the suppression of background cascades produced along atmospheric muon tracks in Baikal-GVD

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Poster:

- The contribution is about the suppression of background cascades produced along muon tracks via discrete stochastic energy losses in the Baikal-GVD neutrino telescope.
- The cascades created along atmospheric muon tracks produce the most abundant background in searching for high-energy neutrino cascade events. Therefore, it is important to suppress these background events.
- Several suppression methods have been developed, optimized, and tested with Monte Carlo simulations. Subsequently, these techniques have been applied to experimental data for season 2019.
- A total of 25 events fulfill the suppression cut condition to be the potential candidates for neutrino cascade events. Among these events, two were reconstructed with higher energies, almost 80 TeV for one contained event and ~ 50 TeV for the uncontained.