

Reconstruction of neutrino direction in the Baikal-GVD experiment by neural networks

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This study focuses on the reconstruction of neutrino direction in the Baikal-GVD experiment using convolutional neural networks and graph neural networks. Monte Carlo simulation data is utilized, examining single-cluster events of atmospheric neutrino with energies ranging from 10 GeV to 100 TeV. The performance of proposed models are compared to a standard reconstruction algorithm comparing their median angular resolutions. Results show that neural networks offer enhanced accuracy over the standard algorithm, particularly in small polar angles.

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