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Identifying Electron Neutrino Events in MINOS

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The reach of the search for electron-neutrino appearance in the MINOS far detector, a process which would manifest a non-zero value of the θ_{13} mixing angle, depends primarily on the ability to separate the signal from the backgrounds. MINOS is using two different approaches for event classification. One selector is an artificial neural network, which relies on topological variables that describe the shape of the showers. The other selector is a novel approach where each event in the data is compared to very large libraries of simulated signal and background events, and a discriminant is constructed from the properties of the N best matches. The intricacies and the performance of both methods are reviewed in this talk.

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