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Edepillim: A New Muon Energy Reconstruction Method

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Large scale neutrino detectors are relying on accurate muon energy estimates to infer neutrino energy. Reconstruction methods which incorporate physics knowledge will produce a better result. The muon energy reconstruction algorithm Edepillim takes into account the entire pattern of energy loss along the muon track and uses probability distribution functions describing muon energy losses to perform a maximum likelihood reconstruction for the initial muon energy. This work demonstrates the good reconstruction resolution of this method on idealised simulation by comparison to other energy reconstruction methods.

Consider for promotion

No

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