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Please use	this identifier to cite or link to this item: http://hdl.handle.net/123456789/4543
Title:	Constraining the NuMI neutrino flux using inverse muon decay reactions in MINERvA
Authors:	Jena, Satyajit (/jspui/browse?type=author&value=Jena%2C+Satyajit)
Keywords:	Lepton-lepton interactions Secondary beams
Issue Date:	2021
Publisher:	American Physical Society
Citation:	Physical Review D, 104(9).
Abstract:	Inverse muon decay, v $\mu$ e $-\to \mu$ – v e , is a reaction whose cross section can be predicted with very small uncertainties. It has a neutrino energy threshold of $\approx$ 11 GeV and can be used to constrain the high-energy part of the flux in the NuMI neutrino beam. This reaction is the dominant source of events which only contain high-energy muons nearly parallel to the direction of the neutrino beam. We have isolated a sample of hundreds of such events in neutrino and antineutrino enhanced beams, and have constrained the predicted high-energy flux.
Description:	Only IISER Mohali authors are available in the record
URI:	https://doi.org/10.1103/PhysRevD.104.092010 (https://doi.org/10.1103/PhysRevD.104.092010) http://hdl.handle.net/123456789/4543 (http://hdl.handle.net/123456789/4543)
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