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Measurement of the neutrino-nucleon cross-section at multi-TeV energies with IceCube

Saturday 6 August 2016 18:00 (2 hours)

We present a measurement of the total muon neutrino-to-nucleon cross-section at energies from 1.4 to 890 TeV. The measurement is based on the observation of the Earth's absorption of atmospheric and astrophysical neutrinos, using a sample of over 10,000 up-going muons from Earth-transiting neutrinos detected by the IceCube Neutrino Observatory in its 79-string configuration. The cross-section was determined using a two-dimensional fit in measured muon energy and zenith angle and will be presented as a multiple of the Standard Model expectation.

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