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A new search for multi-flavour PeV neutrinos with IceCube

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PeV neutrinos detected by the IceCube observatory are the highest-energy extraterrestrial elementary particles ever seen on Earth. More knowledge on PeV neutrinos such as seeing a spectral cut-off would help understand the possible connection to the sources of ultra-high energy cosmic rays. A new selection has been developed for PeV neutrinos which are not selected by the existing high-energy searches. The new channel has been optimised for partially-contained cascades generated via Glashow resonance. It has then been combined with samples of high-energy starting events and extremely-high-energy tracks to determine the characteristics of the high-energy end of the diffuse spectrum. In this talk, results on the cut-off energy will be shown and constraints on scenarios which predict cosmogenic PeV neutrinos will be discussed.

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