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First cosmogenic neutrino limits from two full ARA detector stations at South Pole

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The Askaryan Radio Array (ARA) is an ultra-high energy (>100 PeV) cosmic neutrino detector which is in phased construction near the South Pole. ARA searches for radio Cherenkov-like emission from particle cascades induced by neutrino interactions in the ice using radio frequency antennas (~150-800 MHz) deployed at a design depth of 200m in the Antarctic ice. A prototype ARA Testbed station was deployed at ~30m depth in the 2010-2011 season and the first three full ARA stations were deployed in the 2011-2012 and 2012-2013 seasons. We present the first neutrino search with ARA using data taken in 2013 with the first full ARA stations along with the resulting constraints on the neutrino flux from 100 PeV to 100 EeV.

Collaboration

- not specified -

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Primary authors: O'MURCHADHA, Aongus (Université Libre de Bruxelles); Dr PFENDNER, Carl Gilbert (Ohio State University (USA)); MEURES, Thomas (ULB)

Presenters: O'MURCHADHA, Aongus (Université Libre de Bruxelles); Dr PFENDNER, Carl Gilbert (Ohio State University (USA))

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