Contribution ID: **31** Type: **Oral presentation**

Status and prospects for the Askaryan Radio Array (ARA) cosmogenic neutrino detector

Monday, 26 October 2015 15:15 (15 minutes)

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 (˜150-800MHz) 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 status of the array and plans for the near-term construction of a full ARA-37 detector with profound discovery potential for most models of cosmogenic neutrinos from 100 PeV to 100 EeV in energy.

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Session Classification: Neutrinos

Track Classification: Neutrino physics