



Contribution ID: 42

Type: **not specified**

## Askaryan Radio Array (ARA): Status and Performance

*Thursday, 12 June 2014 08:30 (30 minutes)*

The Askaryan Radio Array (ARA) is an ultra-high energy (UHE) cosmic neutrino detector located at the South Pole. The cosmic ray flux cut off above primary energies of  $10^{19.5}$  eV leads us to expect a UHE neutrino flux due to the GZK effect. The detection of these UHE cosmic neutrinos will add to the understanding of the sources and physics of UHE cosmic rays.

ARA uses the radio Cherenkov technique to search for UHE neutrinos by deploying radio frequency (RF) antennas at 200m depth in the Antarctic ice and searching for impulsive RF signals. A prototype ARA Testbed station was deployed in the 2010-2011 season and the first design-level ARA stations were deployed in the 2011-2012 and 2012-2013 seasons.

Three independent analysis methods have been developed in the search for UHE neutrinos with ARA. I will present the results of these first neutrino searches with 2011-2012 ARA Testbed data. I will also present the preliminary efforts of the extension of these methods to the analysis of the design-level stations.

**Primary author:** Dr PFENDNER, Carl (Ohio State University)

**Co-authors:** Prof. CONNOLLY, Amy (Ohio State University); Mr HONG, Eugene (Ohio State University)

**Presenter:** Dr PFENDNER, Carl (Ohio State University)

**Session Classification:** Th AM I

**Track Classification:** Thurs AM I - In-Ice Neutrino Main