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ARA TestBed background data analysis and neutrino sensitivity limit study. EUGENE HONG, AMY CONNOLLY, CARL PFENDNER, Ohio State University, ASKARYAN RADIO ARRAY (ARA) COLLABORATION — Askaryan Radio Array (ARA) is a 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 lead us to expect an 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. The radio Cherenkov technique is one of the most promising technologies for the detection of UHE cosmic neutrinos. ARA uses the radio Cherenkov technique by deploying radio frequency antennas at 200m depth in the Antarctic ice. A prototype ARA TestBed station was deployed in the 2010-2011 season and the first ARA station was deployed in the 2011-2012 and 2012-2013 seasons. We present the results of the first neutrino search with ARA, using data taken from 2011-2012 with the ARA TestBed.

Eugene Hong
Ohio State University

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