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Sensitivity of the Beamforming Elevated Array for COsmic Neutrinos to Cosmic Rays[1] ANDREW ZEOLLA, Pennsylvania State University, BEACON COLLABORATION — Tau neutrinos are expected to comprise one third of both the astrophysical and cosmogenic neutrino flux, but currently the flavor ratio is poorly constrained and the expected flux at energies greater than 100 PeV is low. The Beamforming Elevated Array for COsmic Neutrinos (BEACON) is a novel detector concept that utilizes a radio interferometer atop a mountain to search for upgoing air showers due to tau lepton decays originating from tau neutrino interactions within the Earth. Sensitive to the radio emission from air showers, BEACON takes advantage of the large viewing areas available at high elevations and the long propagation lengths, high duty cycles, and precision pointing available to radio techniques. The prototype, located at the White Mountain Research Station in California, consists of 4 crossed-dipole antennas operating in the 30-80 MHz range and uses a directional interferometric trigger for reduced thresholds and background rejection. The prototype detector model will be validated using the radio emission from down-going cosmic ray air showers. In this talk, I discuss the performance of the prototype array and its expected sensitivity to cosmic rays.

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