Modeling and Validating RF-Only Interferometric Triggering with Cosmic Rays for BEACON

Executive Summary

The Beamforming Elevated Array for COsmic Neutrinos (BEACON) is a detector concept that utilizes a radio interferometer atop a mountain to search for the radio emission from extensive air showers created by Earth-skimming tau neutrinos. The BEACON prototype will first be used to detect down-going cosmic rays to validate the detector model. In this poster, we describe a Monte Carlo simulation developed to predict the acceptance of the BEACON prototype to cosmic rays. We find that the prototype should detect multiple highly-inclined cosmic rays of energies greater than $10^{16.5}$ eV per day.