Contribution ID: **397** Type: **Poster high energy neutrinos & cosmic rays**

Constrains on the origin of high-energy neutrino sources with HAWC

The unknown sources of very-high-energy (VHE) astrophysical neutrino are also expected to be sources of VHE gamma rays. With a very large field of view (2 sr), a sky coverage of 2/3 of the sky and an uptime ratio better than 95%, HAWC is an outstanding detector to search for gamma-ray counterparts to neutrino sources. We present two works. In the first, limits of VHE gamma ray emission are presented for a large number of likely astrophysical neutrinos. This is performed with short (1, 2, 10 days) and long (1017 days, HAWC's data set from November 2014 to December 2017) integration time windows. In the second work, we compare predictions of FIRESONG cosmological simulations of neutrino sources under various evolution scenarios to the observation of HAWC of only 2 sources in the entire extragalactic sky. We find that HAWC can constrain some scenarios, specially for no evolution of neutrino sources that are thin to VHE gamma rays.

Authorship annotation

for the HAWC collaboration

Session and Location

Wednesday Session, Poster Wall #196 (Ballroom)

Poster included in proceedings:

yes

Primary author: TABOADA, Ignacio (Georgia Institute of Technology)

Co-authors: MARTINEZ, Israel (University of Maryland); RIITANO, Luca (University of Maryland)

Presenter: TABOADA, Ignacio (Georgia Institute of Technology)

Track Classification: Poster (not participating in poster prize competition)