

Diagnose the Sources of IceCube Neutrinos with Fermi Observation

Monday, 8 May 2017 15:45 (15 minutes)

The sources of IceCube detected high energy neutrinos are unknown. During the processes of high energy neutrino production, there should be accompanying gamma-ray emission from neutral pion decay or secondary charged particle emission. Even in the processes that gamma-ray emission is dominated by accelerated electrons, there could be a relation between gamma-ray and neutrino emission. Therefore, we use the Fermi observations on the potential neutrino sources, and estimate their contributions to the IceCube detected diffuse neutrino flux. We find that the Galactic diffuse neutrino emission, gamma-ray bursts, and blazar jets cannot contribute a neutrino flux similar to IceCube flux, but the starburst galaxies are still promising sources.

Primary author: Dr LI, Zhuo (Peking University)

Presenter: Dr LI, Zhuo (Peking University)

Session Classification: Neutrino Astronomy

Track Classification: Neutrino Astronomy - Convenor: Gisela Anton, FAU / ECAP