

Ultra-high energy neutrinos at the Pierre Auger Observatory

Neutrinos in the cosmic ray flux with energies above 100 PeV are detectable with the Surface Detector array (SD) of the Pierre Auger Observatory. Neutrino identification is efficiently done for neutrinos of all flavors interacting in the atmosphere at large zenith angles, as well as for Earth-skimming tau neutrinos.

No neutrino candidates were found up to 31 Mar 2017, and this allowed to constrain several models of cosmic-ray and neutrino production in the EeV region.

With the SD of the Observatory we can also search for neutrinos from point-like sources in the sky. The search for neutrino fluxes in coincidence with several gravitational wave events recently discovered with Advanced LIGO yielded no candidates, but from the non observation we constrain the total energy emitted in EeV neutrinos by BH-BH and NS-NS merger events.

Authorship annotation

for the Pierre Auger Collaboration

Session and Location

Wednesday Session, Poster Wall #208 (Ballroom)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)