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Recent ultra-high energy neutrino searches at the Pierre Auger Observatory

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Besides detecting ultra-high energy (UHE) cosmic rays, the Pierre Auger Observatory with its large Surface Detector array can also be used to search for neutrinos above 10^{17}eV. Using the data collected with the Observatory we have searched for both diffuse and point source fluxes of UHE neutrinos and to set some of the most stringent upper limits in the UHE range. Since its start it has also contributed to various multi-messenger follow-up searches of transient events. This contribution aims to present a summary of the various ongoing studies on the search for UHE neutrinos at the Pierre Auger Observatory. Updated upper limits to the diffuse flux of UHE neutrinos along with the latest results from UHE neutrino searches from binary black hole mergers will be presented. Additionally, potential improvements for the point source neutrino searches at the Pierre Auger Observatory with new techniques will also be discussed.

Poster prize

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