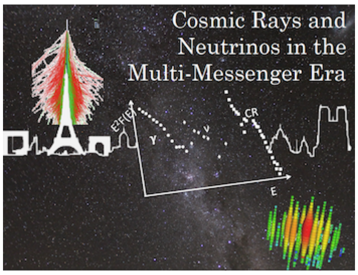

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Neutrino follow-up of gravitational-wave events with ANTARES data

Since 2015, fifty gravitational-wave (GW) signals have been identified and published in two catalogs, marking the growth of the GW astronomy. A single multi-messenger observation from a binary neutron star merger, with an electromagnetic and GW signals detected, has been achieved up to now. Even though compact binary mergers are promising candidates, no neutrino has been yet detected from these sources in coincidence with a GW signal.

The ANTARES neutrino telescope has been taking data for more than twelve years, and it has actively participated in the follow-up of the gravitational-wave triggers. Two analyses are detailed in this poster. First, the results of an all-flavor neutrino follow-up of six binary black hole events observed during O2 data taking period are shown. Second, the first ANTARES results using O3 data are presented, with the follow-up of the two GW candidates identified during O3a for which one of the merging objects follows into the mass gap (it could be a neutron star, a black hole, or an unknown object): GW190814 and GW190426.

Related session

Multi-messenger

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