



Contribution ID: 629

Type: **Poster**

Search for neutrino emission from binary mergers with neutrino telescopes in the depths of the Mediterranean Sea

Astrophysical neutrinos may be produced during the coalescence of compact objects, in particular those involving neutron stars. Such mergers have been observed through gravitational wave detections by LIGO-Virgo-KAGRA interferometers. The ANTARES and KM3NeT deep-sea neutrino telescopes are sensitive to neutrino interactions in a wide range of energies, from MeV to PeV. This contribution reviews recent searches for neutrinos in time and space correlation with the gravitational wave signals. In particular, the results of follow-ups with the KM3NeT real-time system for alerts from the fourth observing run of LIGO-Virgo-KAGRA will be reported for the first time. Additionally, prospects for future studies using archival data from both neutrino and gravitational wave detectors will be outlined.

Collaboration(s)

ANTARES, KM3NeT

Authors: BARET, Bruny (CNRS); ILLUMINATI, Giulia (INFN-Bologna); W DE WASSEIGE, Gwen (UCLouvain); TOSTA E MELO, IARA (INFN LNS); DEL ROSSO, Ilaria (University of Bologna, INFN-Bo); MAURO, Jonathan (UCLouvain); PALACIOSGONZALEZ, Juan (IFIC (CSIC-UV)); SCARNERA, Marco; PILLAS, Marion (ULiège); LAMOUREUX, Mathieu (UCLouvain); DUVERNE, Pierre-Alexandre (Astroparticules et Cosmologie); EL HEDRI, Sonia (cnrs); Dr PRADIER, Thierry (IPHC)

Presenter: PILLAS, Marion (ULiège)

Session Classification: PO-2

Track Classification: Gravitational Wave, Multi-Messenger & Synergies