



Contribution ID: 514

Type: Poster

## Low-Latency Algorithm for Multi-messenger Astrophysics (LLAMA) search for common sources of gravitational waves and high-energy neutrinos

For more than a decade, searches for common sources of gravitational-waves (GWs) and astrophysical neutrinos have returned null results. With the open public alerts of LIGO-Virgo during their third observing run O3 in 2019-2020, search for high energy neutrinos continued in realtime with IceCube. Here, we describe our analysis with Low-Latency Algorithm for Multi-messenger Astrophysics (LLAMA) which incorporates a Bayesian formalism with astrophysical priors to use the distance information from the 3D localization of GW detections for higher statistical power. Finally, we summarize our results during O3.

### Mini-abstract

Realtime search for common sources of gravitational-waves and high-energy neutrinos

### Experiment/Collaboration

IceCube

**Primary author:** Mr VESKE, Doga (Columbia University)

**Co-authors:** Prof. BARTOS, Imre (University of Florida); Mr COUNTRYMAN, Stefan (Columbia University); Prof. MARKA, Szabolcs (Columbia University); Ms ASALI, Yasmeen (Columbia University); Dr MARKA, Zsuzsa (Columbia University)

**Presenter:** Mr VESKE, Doga (Columbia University)

**Session Classification:** Poster Session 2