



Contribution ID: 76

Type: **not specified**

Boosting unmodeled searches of gravitational wave transients

Wednesday, 20 December 2023 10:30 (10 minutes)

A strong effort is ongoing to develop and improve unmodeled methods for detecting generic GW signals, including those for which we still miss precise modelling, such as the burst events produced by supernovae, magnetar flares, fast radio bursts..

In this context, coherent WaveBurst (cWB) is currently the most efficient and utilised burst pipeline in the LVK Collaboration. cWB is based on a wavelet decomposition of the GW strain signals from the detectors in the worldwide GW interferometer network, and on a global likelihood for the source localisation.

Because of its non-stationarity and non-Gaussianity, the background noise must be empirically estimated by repeating any successful search many times while effectively “switching off” the GW source, making the process computational burden.

In this talk, I will present the current cWB pipeline and the plan for the optimisation of its algorithm.

Presenter: PRINCIPE, Giacomo (Istituto Nazionale di Fisica Nucleare)

Session Classification: Lightning Talks