

THE PYCBC SEARCH PIPELINE FOR BINARY MERGER SIGNALS IN O3

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The PyCBC search pipeline for compact binary merger events, based on a simple modular Python toolkit, has made or confirmed a large fraction of the GW detections to date. In the LIGO-Virgo O2 observing run from 2016-17 the pipeline was run in a configuration that only searched data from the two LIGO detectors for candidate detections ; in current and future runs this choice is not adequate to fully exploit the global network's sensitivity to merger signals. We describe recent upgrades to the pipeline to search with a multi-detector network and improve the robustness of the pipeline to variable data quality, validation of these upgrades on past open data, and the status of pipeline development and operation during the O3 observing run, the most sensitive to date.