

Third Gravi-Gamma Workshop: The multimessenger view of the black hole life cycle



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Past, present and future of gravitational-wave astronomy

Wednesday, 5 October 2022 10:00 (30 minutes)

Beginning with GW150914, the LIGO-Virgo-Kagra collaboration observed 90 compact binary coalescences, 11 during the first two observing runs (O1 and O2) and the remaining 79 during the third, O3.

The implications of these observations in physics and astronomy are countless: from tests of general relativity to insights into binary formation and evolution, from multimessenger observations to cosmological measurements. With the fourth observing run (O4) scheduled for next year, more gravitational-wave events are expected to expand the catalog, bringing with them new insights on our Universe.

In this talk, I will describe selected recent results obtained by the LIGO-Virgo-Kagra collaboration after the end of O3 as well as some of the prospects for O4, both from the point of view of detector sensitivities and expected observations.

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