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Abstract for an Invited Paper for the APR21 Meeting of the American Physical Society

Rates of compact binary mergers from LIGO/Virgo observations

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Mergers of binary systems of black holes and neutron stars are so far the only sources of detectable gravitational wave signals, with order(50) such events in the most recent cumulative catalog. With increasing detector sensitivity and number of signals, we are able to obtain relatively precise rate estimates for such sources, primarily binary black holes and neutron stars, as well as stronger limits on so far unobserved source types. For binary black holes, the most frequently observed signal type, we can also probe the differential merger rate, i.e. source distribution, over binary masses, spins and over redshift, offering several clues to possible formation channels. I will be surveying recent results on merger rates from the third Advanced LIGO-Virgo observing run (O3).

¹Presentation given 'for the LIGO Scientific and Virgo collaborations'