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Tests of General Relativity with LIGO/Virgo[1]

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The LIGO and Virgo gravitational wave detectors carried out the first half of their third observing run from April through October, 2019, collecting 39 new detections of compact binary coalescences. These and previously detected signals contain invaluable information about the nature of black holes and the properties of spacetime more generally. In this talk, I will summarize recent results along this front. This includes updated constraints on deviations from the predictions of general relativity for the generation and propagation of gravitational waves, searches for echos, and probes of the behavior of ringing black holes. I will close by outlining future prospects for testing Einsteins theory with gravitational waves.

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