

Astrophysical Lessons from LIGO/Virgo's Black Holes

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LIGO and Virgo observed 10 binary black hole systems in their first two observing runs, with additional new detections in the third observing run. Studying this population of sources is revealing several exciting features in the mass, spin and redshift distribution, allowing us to address questions such as: is there a gap in the black hole mass spectrum? Do black holes prefer to pair with similar-mass partners? Are black hole spins preferentially aligned? Does the black hole merger rate evolve with redshift? These features may reveal how black holes are made, as well as providing insight into nuclear physics and cosmology.