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LIGO's First Observing Run: Gravitational-Wave Astronomy on the Rise (30' + 5')

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On September 15, 2015, subtle ripples in the fabric of space-time were detected by the twin LIGO interferometers, heralding the opening of the first observational run (O1) with second generation interferometers and gravitational-wave astronomy itself. By the close of that run, two additional significant events had been collected along with a wealth of scientific return. With observing scheduled to resume in September, the LIGO and Virgo interferometers are poised to directly measure the properties of a population of binary black holes and their mergers, advancing inquiries into astrophysics and strong-field general relativity which would have been otherwise inaccessible. In this talk, I will highlight many of the important results of the first observing run, explore their implications, and finally delve into some of the possibilities for future runs.

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