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The Dawn of the Gravitational Wave Astronomy

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The last years marked the beginning of a new era of observations of the Universe. Gravitational waves were detected from binary black-hole mergers and from a binary neutron star merger by the Advanced LIGO and Virgo detectors.
Many gravitational observations and discoveries are expected in the next years with the Advanced LIGO and Virgo detectors, with strong impact on many astrophysical fields, from the physics governing compact object formation and evolution to the physics of the emission process and to nuclear astrophysics.
I summarize here some historical milestones that lead to the first direct detection, and discuss the importance of the so called multimessenger astronomy in which gravitational-wave sources are observed in all bands of the electromagnetic spectrum with ground and space telescopes.

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