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LIGO-Virgo's Discovery of a Binary Neutron Star Merger from a Multi-messenger Perspective

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The recent discoveries of gravitational waves by LIGO and Virgo unveiled numerous opportunities in astrophysics, as well as in the study of the cosmos and the laws of physics. In particular, the observation of a binary neutron star merger and the ensuing multi-messenger follow-up campaign already yielded a range of expected and unexpected findings, giving us a taste of what is yet to come. I will discuss the discovery of GW170817 from the perspective of what we learned from multi-messenger data. In particular I will focus on the high-energy neutrino follow-up effort by ANTARES, IceCube, and the Pierre Auger Observatory, what we learned from these searches, and what we can expect for the near future when the rate of gravitational-wave discoveries is set to rapidly increase.

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