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## High-energy emissions from neutron star mergers

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Last year, LIGO-VIRGO collaborations reported detection of the first neutron star merger event, GW170817, which accompanied with observations of electromagnetic counterparts from radio to gamma rays. High-energy gamma rays and neutrinos were not observed. However, the mergers of neutron stars are expected to produce these high-energy particles. Relativistic jets are expected to be launched when the neutron stars merge, which can be a source of high-energy neutrinos. Also, the central remnant object after the merger event, either a black hole or a neutron star, can produce high-energy photons weeks to months after the merger. In addition, the neutron star mergers produce massive and fast ejecta, which can be a source of Galactic high-energy cosmic rays, analogous to supernova remnants. In this talk, I will discuss these high-energy processes and prospects for multi-messenger detections related to the neutron star mergers.

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