

Multi-wavelength Astronomy with Gravitational Waves

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On 2017 August 17, the merger of a binary neutron-star system observed through gravitational waves and multi-wavelength emission from gamma rays, X-ray, ultraviolet-optical-near infrared, to radio marked the history of multi-messenger astronomy, showing its tremendous potential probe the physics of the most energetic events of the Universe. Multi-messenger discoveries are unveiling the rich physics of neutron star mergers in association with gamma-ray bursts and kilonovae, probing relativistic astrophysics, nuclear physics, nucleosynthesis, and cosmology. This talk will give an overview of observational challenges and perspectives of the multi-wavelength follow-up of gravitational-wave sources based on the current knowledge of the electromagnetic counterparts.

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