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## Explosions in the Universe and the Origin of Chemical Elements

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Recent detection of gravitational waves from merging black holes and neutron stars opened a new window for studying the Universe and further accelerated the tremendous progress in multiwavelength time-domain astronomy. This talk will review exciting new developments in the quest for uncovering the origin of chemical elements in the Universe and understanding the birth of neutron stars and black holes. These major unsolved astrophysical problems are associated with some of the most luminous explosions and involve a wide range of physics such as nuclear matter at high densities, neutrinos, strong magnetic fields, and formation of dust and molecules.

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