

R-process in Binary Neutron Star Mergers

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Neutron star mergers had long been suspected to produce gravitational wave "chirps", gamma ray bursts and produce r-process elements. While overall convincing, all these conjectures were based on indirect arguments and none was proven directly. This changed on August 17, 2017: a gravitational wave signal from a merging neutron star binary was detected, closely followed by a short burst of gamma-rays and week-long transients across the electromagnetic spectrum coming from the radioactive decay of freshly synthesised r-process elements. In this talk I will give an overview over these recent events with a particular focus on the production of heavy elements.

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