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Extracting information on nuclear matter from binary neutron stars

Wednesday, 23 May 2018 09:00 (45 minutes)

I will discuss the rapid recent progress made in modelling these systems and show how the inspiral and merger of a binary system of neutron stars is more than a strong source of gravitational waves. Indeed, while the gravitational signal can provide tight constraints on the equation of state for matter at nuclear densities, the formation of a black-hole-torus system can explain much of the phenomenology of short gamma-ray bursts, while the the ejection of matter during the merger can shed light on the chemical enrichment of the universe.

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