Modelling the Inspiral and Merger of Binary Neutron Stars

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Investigating the final evolution of neutron stars binaries promises to be particularly rewarding. These systems are in fact excellent sources of gravitational waves, they are thought to behind the powerful engines powering short gamma-ray bursts, and they can unveil the behaviour of matter at extreme densities and temperatures. I will review the present understanding in the modelling the inspiral and merger of binary neutron stars in full general relativity, underlining the considerable recent progress, but also highlighting the potential pitfalls that can be encountered when studying these systems.