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Equation of state effects on gravitational waveforms for binary neutron stars¹ JOCELYN READ, JOLIEN CREIGHTON, MASARU SHIBATA, JOHN FRIEDMAN, KOJI URYU, CHARALAMPOS MARKAKIS — Numerical simulations of equal-mass neutron stars, including several orbits of inspiral, merger, and post-merger oscillations, are used to generate gravitational waveforms for systematically varied equations of state (EOS). We discuss matching these waveforms to PN waveforms with tidal corrections to generate full templates for preliminary work on data analysis and the extraction of EOS parameters, using Advanced LIGO noise curves for broadband and high frequency narrowband tuning.

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Jocelyn Read

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