Contributed Talk

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Title: A new model for binary neutron star coalescences: PhenomX meets NRTidalv2

Abstract: We present IMRPhenomXP_NRTidalv2, a new waveform model for the gravitational-wave signal emitted by binary neutron star systems. The model builds upon the state-of-the-art PhenomX waveform family, and includes both an analytical and numerical description of double-spin precession effects. We incorporate into the binary-black-hole baseline tidal corrections obtained by blending post-Newtonian results and information extracted from numerical relativity waveforms. When analysing GW170817, we find that the new model recovers a larger signal-to-noise ratio and yields tighter constraints on the source parameters with respect to previous models.