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**Gravitational Wave Signals from Core-Collapse Supernova Explosions** ANTHONY MEZZACAPPA, Oak Ridge National Lab, KONSTANTIN YAKUNIN, NOAH FRERE, University of Tennessee, PEDRO MARRONETTI, National Science Foundation, STEPHEN BRUENN, Florida Atlantic University, W. RAPHAEL HIX, ERIC J. LENTZ, University of Tennessee, J. AUSTIN HARRIS, Lawrence Berkeley National Lab, EIRIK ENDEVE, O. E. BRONSON MESSER, Oak Ridge National Lab, JOHN BLONDIN, North Carolina State University — We present gravitational wave signals produced in two- and three-dimensional simulations of core-collapse supernova explosions. We perform our first-principles simulations with the neutrino hydrodynamics code CHIMERA. The code is based on Newtonian hydrodynamics and MGFLD neutrino transport with realistic neutrino interactions. It includes a nuclear equation of state, general relativistic corrections to the gravitational potential and neutrino transport, and a nuclear reaction network. Our simulations cover a wide range of progenitors from light ( $9.6M_{\odot}$ ) to heavy ( $30M_{\odot}$ ) mass. We compute the complete gravitational wave signals for all of these models. In this talk, we present the results and analyze the similarities and differences between the signals.

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