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**Gravitational Wave Signals from 2D and 3D Core Collapse Supernova Explosions** KONSTANTIN YAKUNIN, ANTHONY MEZZACAPPA, Univ of Tennessee, Knoxville, PEDRO MARRONETTI, National Science Foundation, STEPHEN BRUENN, Florida Atlantic University, W. RAPHAEL HIX, ERIC J. LENTZ, Univ of Tennessee, Knoxville, O. E. BRONSON MESSER, Oak Ridge National Laboratory, J. AUSTIN HARRIS, University of California, Berkeley, EIRIK ENDEVE, Oak Ridge National Laboratory, JOHN BLONDIN, North Carolina State University — We study two- and three-dimensional (2D and 3D) core-collapse supernovae (CCSN) using our first-principles CCSN simulations performed with the neutrino hydrodynamics code CHIMERA. The following physics is included: Newtonian hydrodynamics with a nuclear equation of state capable of describing matter in both NSE and non-NSE, MGFLD neutrino transport with realistic neutrino interactions, an effective GR gravitational potential, and a nuclear reaction network. Both our 2D and 3D models achieve explosion, which in turn enables us to determine their complete gravitational wave signals. In this talk, we present them, and we analyze the similarities and differences between the 2D and 3D signals.

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