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Gravitational Waves from Core Collapse Supernova: Simulations with CHIMERA KONSTATIN YAKUNIN, STEPHEN BRUENN, PEDRO MARRONETTI, Florida Atlantic University — We perform numerical simulations of Core Collapse Supernova using the multi-dimensional hydrodynamics code CHIMERA that includes a realistic nuclear networks, spectral neutrino transport, approximate GR, and a realistic EOS. Gravitational wave signals from different progenitor stars (12, 15, 20 and 25 solar masses) generated by both matter and neutrinos will be presented. We compare our results with other groups and analyze some features of the core-collapse supernova mechanism. These GW templates can be used to enhance the search for supernovae signals in current and future laser-interferometric gravitational wave detectors.

Konstantin Yakunin
Florida Atlantic University

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