

The explosion dynamics of core-collapse supernovae and its multi-messenger signatures

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Based on our three-dimensional hydrodynamic simulations of core-collapse supernovae (CCSN) including spectral neutrino transport, we present the gravitational-wave signatures emitted from a wide variety of SN progenitors. We also discuss how we can learn about the supernova mechanism by taking a correlation analysis between the gravitational-wave and neutrino signatures particularly in the case of the next Galactic source.

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