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Core-collapse supernova simulation with effective general relativity SHIN YOSHIDA, STEPHEN BRUENN, PEDRO MARRONETTI, KONSTANTIN YAKUNIN, Department of Physics, Florida Atlantic University — We have performed multi-dimensional numerical radiation hydrodynamic simulations of core-collapse supernovae. Our numerical code can handle realistic nuclear reactions as well as spectral neutrino transport coupled with fluid motions. In order to take into account a strong general relativistic (GR) gravity that is important in this context, we employ an effective GR gravity formalism recently proposed by Marek et al. (Astron. & Astrophys., 445, 273 (2006)). The formalism is exact in a static spherical star and has shown a good agreement with GR collapse simulation. We will present our preliminary results in this talk.

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