The Supernova Explosion Code (SNEC)[1] VIKTORIYA GIRYAN-SKAYA, CHRISTIAN OTT, California Institute of Technology, ANTHONY PIRO, Carnegie Observatories, MATHIEU RENZO, University of Pisa, SEAN COUCH, DREW CLAUSEN, JUSTIN ELLIS, LUKE ROBERTS, California Institute of Technology — We present the SuperNova Explosion Code (SNEC), an open-source Lagrangian code that solves for the hydrodynamics and equilibrium-diffusion radiation transport in the expanding envelopes of core-collapse supernovae (CCSNe), taking into account recombination effects and the presence of radioactive nickel. Given a model of the progenitor star and an explosion energy, the code generates the bolometric light curve, as well as the light curves in different observed wavelength bands in the blackbody approximation. Using SNEC, we present lightcurves resulting from explosions of a grid of pre-explosion stars (computed with the MESA code) whose hydrogen envelopes have been systematically stripped to different extents and at different points of their evolution.

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