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Neutrino-Induced Production of Beryllium in Core-Collapse Supernovae PROJJWAL BANERJEE, Department of Physics, University of California, Berkeley, CA 94720, WICK HAXTON, Department of Physics, University of California, and Lawrence Berkeley National Laboratory, Berkeley, CA 94720, ALEXANDER HEGER, YONG-ZHONG QIAN, School of Physics and Astronomy, University of Minnesota, Minneapolis, MN 55455 — We present two new mechanisms for neutrino-induced production of ⁹Be in core-collapse supernovae. The first mechanism operates in the shocked material close to the core of low-mass progenitors of ~ $8M_{\odot}$. The second mechanism is independent of metallicity, the second mechanism operates only at metallicities $\leq 10^{-3}$ the solar value. We explore the sensitivity of both mechanisms to neutrino emission spectra, flavor oscillations, and the explosion energy. We find that the observed Be abundances at low metallicities can be accounted for by these two mechanisms and discuss similar mechanisms that may produce Be at higher metallicities.

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