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CCSN neutrino detection with DUNE

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The Deep Underground Neutrino Experiment (DUNE), a 40-kt liquid argon time projection chamber detector located deep underground at the 4850L of the Sanford Underground Research Facility (SURF) in South Dakota, will record the burst of neutrinos from the core collapse of a massive star in the Milky Way neighborhood. DUNE's liquid argon has unique sensitivity to the electron neutrino component of the burst. This talk will present the expected capabilities of DUNE for measurements of neutrinos in the few-tens-of-MeV range relevant for supernova detection, and the corresponding sensitivities to neutrino physics and supernova astrophysics. Recent progress and some outstanding issues will be highlighted.

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