

Abstract Submitted
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Observe Supernova Neutrinos with JUNO¹ ZIPING YE, Shanghai Jiao Tong Univ, JUNO COLLABORATION — Jiangmen Underground Neutrino Observatory (JUNO) is a 20-kton liquid scintillator detector whose primary scientific goal is to measure neutrino mass ordering. With its large fiducial mass and excellent energy resolution, JUNO can be a powerful neutrino telescope observing astrophysical neutrinos. For example, for neutrinos from a typical core collapse supernova at 10 kpc, JUNO can detect 5000 electron-antineutrinos through inverse beta decay, 2000 all flavor neutrinos through neutrino-proton elastic scattering (neutral current interaction), and 300 electron-neutrino through neutrino-electron elastic scattering and neutrino interaction with carbon-12 nucleus. The high statistics and all-flavor detection of supernova neutrinos allow detailed measurements on supernova physics and neutrino properties.

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