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Core-Collapse Supernova monitor study during the JUNO filling phase

Wednesday 27 August 2025 18:00 (2 hours)

The Jiangmen Underground Neutrino Observatory (JUNO) is a 20-kiloton liquid scintillator detector with the capability to detect neutrinos from the next Core-Collapse Supernova (CCSN) and effectively manage the resulting large statistics. The real-time CCSN monitoring system of JUNO is designed to provide fast and reliable alerts by tracking the increasing event rates of supernova burst neutrinos and pre-supernova neutrinos. Upon detecting an alert, the system will record as much data as possible for rapid analysis, facilitating multi-messenger observations of CCSN events. The CCSN monitoring system comprises both prompt monitors and online monitors, ensuring swift alert generation while maintaining comprehensive coverage of progenitor stars. This poster will discuss the implementation and extensive testing of the CCSN monitoring system conducted during the JUNO filling phase.

Collaboration you are representing

JUNO

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