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The SuperNova Early Warning system: status and plans

Core-collapse supernova emits 99% of its gravitational energy in a short burst of neutrinos with energies around 10 MeV.
This neutrino signal, if detected, can be used as a probe for physics in the stellar evolution and collapse process, as well as neutrino properties such as flavor transformations.

The SuperNova Early Warning System (SNEWS) is an global network of neutrino and dark matter experiments,
carrying out real-time search and analysis of neutrino signals to provide an early warning of galactic supernova.
This system has been operating since 2005 in automated simple coincidence mode.

We present the current status and plans of an ongoing major upgrade of the SNEWS system,
which includes studying theoretical predictions of supernova neutrino signals and expected
observable effects in various neutrino detectors, applying more advanced coincidence techniques,
accounting for directional information and searching for pre-supernova neutrino signal.

Collaboration(s)

SNEWS

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