

The Supernova Early Warning System (SNEWS) v2.0: a galactic SN alert in the era of Multi-Messenger Astronomy

venerdì 21 giugno 2024 17:30 (2 ore)

A core-collapse Supernova in our own galaxy would be close enough to be seen with neutrinos in many of the world's neutrino and dark matter detectors. Those neutrinos exit the star promptly, while the electromagnetic fireworks appear ~hours later after the explosion's shock reaches the star's surface. An automated alert network allows a coincidence between detectors to be issued automatically, taking advantage of that early warning to get observations going at the earliest possible time: facilitating the extraction of the most data possible of this once or twice a century event. While SNEWS has been ready to do this for two decades, Multi-Messenger Astronomy has come a long way in that time, so SNEWS2.0 is being deployed with new infrastructure and the ability to do more than just a simple coincidence: public sub-threshold alerts; pointing to the supernova using inter-experiment triangulation; and searches for pre-supernova neutrinos. We will outline the capabilities and design of SNEWS 2.0, as well as its role in multi-messenger follow-ups.

Poster prize

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Collaboration (if any)

SNEWS 2.0

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Classifica Sessioni: Poster session and reception 2

Classificazione della track: Supernova neutrinos