

Supernovae and SNO+

At the end of a massive star's life, a violent explosion known as a supernova occurs and releases 99% of the star's gravitational binding energy in the form of neutrinos. Although the explosion generates a huge burst of neutrinos, the large distance to earthbound detectors, low cross sections, and flavour changing oscillations can make detection and analysis challenging. Only one neutrino burst from a supernova has ever been detected, but neutrino detectors have been waiting patiently for another. The SNO+ detector at SNOLAB can be used as a supernova detector during both regular operation and calibrations by measuring the burst of neutrinos from a supernova. We present the neutrino detection method and analysis of potential galactic supernova with the SNO+ detector.

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