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## Sensitivity to core-collapse supernovae neutrino signals in DarkSide-20k

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DarkSide-20k (DS-20k) will probe the dark matter WIMP hypothesis by looking for WIMP-nucleon elastic scattering with a dual-phase time projection chamber (TPC) detector filled with 50 tonnes of low-radioactivity liquid argon extracted from underground sources. Besides the primary physics goal of DS-20k, the low-energy threshold (of about 0.5 keV for nuclear recoils) of the detector will allow it to observe neutrinos from core-collapse supernovae via the coherent elastic neutrino-nucleus scattering (CEvNS). In this way, DarkSide-20k will produce a flavour-blind measurement of the unoscillated neutrino flux from a SN providing the normalisation for current and future giant detectors which are mostly sensitive to electron (anti-)neutrinos. In addition, DS-20k will be able to join the network of the SuperNova Early Warning System 2.0 (SNEWS2.0), providing additional input for triangulating core-collapse supernovae.

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