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Searching for local group supernovae using high-energy neutrinos from CSM interaction

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IceCube monitors our galaxy for supernovae using neutrinos with energies of tens of MeV. However, the shock between the ejecta and the progenitor star's circumstellar material can create a high flux of neutrinos with energies on the order of TeV and above. These neutrinos would reach Earth 0.1 day - 1 year after the low-energy neutrinos. I will describe an analysis aimed to investigate whether we can extend IceCube's observational reach by using these high-energy neutrinos and design a search for hidden SN in our local group.

Abstract Track

Flash talk, Astroparticle physics

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