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Diffuse supernova neutrino background and scalar field dark matter

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Abstract content

Measuring the electron anti-neutrino component of the cosmic diffuse supernova neutrino background is the next ambitious goal for low-energy neutrino astronomy. We explore possible modifications to the detection rate of this flux due to a new non-standard coupling of neutrinos with a hypothetical scalar field dark matter candidate. We will show that this effect could give information about the properties of the dark matter halo if it is composed mainly by this scalar field dark matter.

Summary

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