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Relic neutrinos: clustering and consequences for direct detection

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The Cosmic Neutrino Background is a prediction of the standard cosmological model, but it has been never observed directly. Experiments with the aim of detecting relic CNB neutrinos are under development. For such experiments, the expected event rate depends on the local number density of relic neutrinos. Since massive neutrinos can be attracted by the gravitational potential of our galaxy and cluster locally, a local overdensity of relic neutrinos should exist at Earth. We report the status of our knowledge of neutrino clustering and the consequences for future direct detection experiments.

Collaboration name

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