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χarov: a tool for neutrino flux generation from WIMPs

Indirect searches for signatures of corpuscular dark matter have been performed using all cosmic messengers: gamma rays, cosmic rays, and neutrinos. The search for dark matter with neutrinos is important since they are the only courier that can reach detectors from dark matter processes in dense environments, such as the core of the Sun or Earth, or the edge of the observable Universe. One thing essential to experiments is the prediction of the neutrino signature in the detector. I will introduce χarov, a software that bridges the dark sector and Standard Model by predicting neutrino fluxes from different celestial dark matter agglomerations in diverse scenarios. This package includes updated computation of neutrino production and propagation to the detector.

Keywords

indirect dark matter detection; neutrino; software; Monte Carlo simulation

Collaboration

other Collaboration

Subcategory

Theoretical Methods

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