

Effect of the Large Magellanic Cloud on dark matter direct detection

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The Large Magellanic Cloud (LMC) can impact the dark matter halo of the Milky Way, and boost the dark matter velocity distribution in the Solar neighborhood. Cosmological simulations that sample potential Milky Way formation histories are powerful tools, which can be used to characterize the signatures of the LMC's interaction with the Milky Way, and can provide crucial insight on the LMC's effect on the local dark matter distribution. I will discuss the signatures of the LMC on the local dark matter distribution in state-of-the-art cosmological simulations, and its implications for dark matter direct detection.

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