

Implications of simulated Milky Way-like haloes for dark matter direct detection

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There is significant astrophysical uncertainty in the interpretation of data from dark matter direct detection experiments, due to the poorly known dark matter distribution at the position of the Sun. I will discuss the local dark matter density and velocity distribution of Milky Way-like galaxies obtained from the high-resolution EAGLE hydrodynamical simulations. To make reliable predictions for direct detection searches, we identify simulated haloes which satisfy the Milky Way observational constraints. Using the dark matter distribution obtained for the selected Milky Way-like simulated haloes, I will present an analysis of current direct detection data.

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