

# Constraints on dark matter-neutrino scattering with Milky-Way satellite observations and semi-analytical subhalo modeling for dark acoustic oscillations

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The elastic scattering between dark matter (DM) and radiation can potentially explain small-scale observations that the cold dark matter faces as a challenge, as damping density fluctuations via dark acoustic oscillations in the early universe erases small-scale structure. We study a semi-analytical subhalo model for interacting dark matter with radiation, based on the extended Press-Schechter formalism and subhalos' tidal evolution prescription. We also test the elastic scattering between DM and neutrinos using observations of Milky-Way satellites from the Dark Energy Survey and PanSTARRS1.

## Secondary category for the parallel session (optional)

Cosmology

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