

Abstract Submitted
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Dynamics of the Milky Way satellite galaxies with Gaia EDR3

ALEX RILEY, LOUIS STRIGARI, Texas AM University — The release of high-quality astrometric data from the Gaia space mission has revolutionized studies of the Milky Way's satellite galaxies over the past few years. Here, we combine measurements of satellite proper motions based on the latest Gaia data with literature distance and line-of-sight velocity measurements to study the dynamics of this system. We also present comparisons with cosmological simulations that track galaxy formation and evolution. The Milky Way satellites preferentially lie on tangential orbits, a kinematic signature consistent with a central galaxy disrupting orbits that pass nearby. The orbital poles of these satellites are also highly clustered, indicating the presence of a thin, rotationally-stabilized plane of satellites. These inferences are largely robust to the presence of the massive LMC on its first infall.

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