“The MOND paradigm of modified dynamics as an alternative to a dark universe”

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Abstract

MOND is an alternative paradigm of dynamics proposed to supersede Newtonian dynamics and General Relativity in the realm of the galaxies and the Universe at large. It strives to account for the various mass discrepancies observed in the Universe—which are generally attributed to "dark matter" and "dark energy"—without such hypothetical entities. Emphasis will be put on the general principles underlying MOND, and on its phenomenology: the various predictions that MOND makes, and how they fare observationally.