

Abstract Submitted  
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**Conformal Gravity Rotation Curves in Tidal Dwarf Galaxies**

JAMES O'BRIEN, Wentworth Institute of Technology / UCONN — We extend the application of the conformal gravity theory to tidal dwarf galaxies (TDGs). These dwarf galaxies are formed in the tidal tails of collisions of disk galaxies, and are thought to be predominantly composed of material expelled from the galactic disk of a parent galaxy. With any dark matter present in the parent galaxies expected to predominantly be in spherical haloes, tidal galaxies should thus have a very low dark matter content, and thus should not themselves be expected to possess the substantial spherical dark matter haloes that are ordinarily required to accompany and stabilize disk galaxies in standard gravity. In consequence, in the standard dark matter picture TDG rotation curves should not be expected to display any substantial mass discrepancies. Tidal dwarf galaxies thus provide a quite unusual laboratory for exploring the missing mass problem. Rotation curve data have become available for three TDGs associated with the parent galaxy NGC 5291, and it has been shown that there are in fact mass discrepancies, and that a good accounting of the data can be provided by MOND. Here we show that conformal gravity can also provide a good accounting of the data.

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