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Dynamics of warped disk galaxies

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Theories which explain warps of disk galaxies all make an interaction with the environment responsible for their appearance. According a large fraction of those theories, the formation of a warp is caused by a misalignment of a triaxial dark matter halo with the disk. This misalignment is maintained or frequently excited by cosmic infall or gravitational interaction with companions. Such a misalignment should cause measurable deviations of the orbits of the disk material from circularity, which are expected to be largest for extreme warps. We present deep HI synthesis observations and complementary photometric observations of five disk galaxies, three of which show extreme warps and discuss the results of our analysis in view of the kinematics and the morphology of the galaxies.

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