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# The rotation curves of dwarf galaxies: a problem for Cold Dark Matter?

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We present the results of a study of galactic disks rotating in cosmologically motivated cuspy dark matter halos. The model galaxies include stellar disks, disks with bars, and disks with bulges. The question we address is how accurately rotation curves and density profiles are recovered in real observations of dwarf and low surface brightness galaxies. We "observe" the disk using the methods that observers apply to real data. We find that the tilted ring model analysis produces an underestimate of the central rotational velocity. In some cases the galaxy halo density profile seems to have a flat core, while in reality it does not. We identify three effects, which explain the systematic biases: (1) inclination (2), small bulge, and (3) bar. Systematic biases in the central part of the rotation curve result in an underestimate of the density of the central part of the disk. In some cases this results in the false inference that the density profile of the halo flattens in the central parts.

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