

A Search for Pure Disk Galaxies

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Abstract Flat (or superthin) galaxies are late-type edge-on spiral galaxies that exhibit large axial ratios, small stellar disk scale heights and no distinct spheroidal bulge component. This type of galaxies appears to be a pure disk system with an extended blue stellar disk embedded in a red thick layer. Flat galaxies are very common objects with low star formation rates, low metallicities, low optical surface brightness but high neutral gas fractions. Their rotation curves resemble those of dwarf and irregular galaxies. These simple disk systems offer the unique opportunity to constrain galaxy disk evolution in underevolved galaxies in the nearby Universe. They are also an evolutionary puzzle since merger scenarios do not predict the formation of pure disks. We present first results from an extensive search for flat galaxies in the Sloan Digital Sky Survey (SDSS).