

Dust lanes since $z \sim 1$

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Abstract

Dust lanes are an iconic part of edge-on spirals which predominantly occur in the larger faster-rotating disks ($V > 120$ km/s). This observational fact has now been well established and linked to the vertical gravitational stability of spiral disks: the ISM in the massive disks collapses into the thin lanes.

A survey of distant ($z < 1$) edge-on spirals in the Extended Groth Strip will give the corresponding critical velocity at which dust lanes appear and the fraction of spirals that display them. This will allow us to study the evolution in dust disks with redshift. This survey will have implications for the number of massive HI-rich disks, the balance between ISM and SFR in earlier disks and the Tully-Fisher relation.

Investigators:

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Dataset Summary:

Instrument	No. of Datasets	Retrieval Method	Retrieval Plan
ACS	100	DISK	Co-I A. Koekemoer has all relevant ACS images on disk