

Optical Imaging of Disks: From HST to TPF-C

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Optical disk imaging from space offers the advantages of high spatial resolution and sensitivity to small amounts of dust. I will review HST studies of protoplanetary and debris disks which have provided the most detailed views to date of young planetary systems, and yielded key insights into their structure and evolution. These studies are currently limited by the image contrasts that can be achieved with current instrumentation. Future planet-finding optical telescopes will provide 3-4 orders of magnitude improvement in image contrast. This capability would enable major advances in studies of disk structure, disk dissipation, dust grain properties, and planet/disk dynamical interactions.