



Zodiac II: A Balloon Facility for Exoplanet Debris Disk Observations

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Zodiac II is an optical coronagraph on a 1.2m telescope operating on a balloon-borne gondola in the stratosphere. The science goal is to high-contrast imaging of debris disks around nearby stars. Debris disks, usually found in the outer reaches of a planetary system, are significant for exoplanet science because they are signposts of the planet formation process. The design suppresses the starlight by about 7 orders of magnitude, with a detection sensitivity of about 10 times lower than the speckle background, and with arcsecond-level pointing control. This performance will allow us to make images of a large number of disks. The coronagraph will deliver images in three narrow bands (7%) and one broad (20%) band at 0.9 microns. Zodiac II will be a facility capable of long-duration (several week) flights.