

A Resolved Debris Disk Around the Nearby G Star HIP 32480

Stapelfeldt, K. R.¹; Bryden, G. C.²; Marshall, J.³; Eiroa, C.³; Absil, O.⁴; Mora, A.⁵; Krist, J. E.²; Su, K. Y. L.⁶; Herschel/DUNES Key Project

¹ NASA Goddard Space Flight Center, ² Jet Propulsion Laboratory, Caltech, ³ Universidad Autonoma de Madrid ⁴ Université de Liège ⁵ European Space Astronomy Centre, ESA ⁶ University of Arizona

The Herschel Space Observatory is providing unprecedented sensitivity and angular resolution in the far-infrared. The DUNES Key Project (DUSt around NEArby Stars, PI Carlos Eiroa) has finished its survey of 133 FGK stars within 25 pc of the Sun using the PACS photometer at 100 and 160 microns. We report the detection of a resolved debris ring around HIP 32480, a G0 star 16.5 parsecs distant. The ring is almost 300 AU in diameter and inclined 30 degrees from edge-on. We present a thermal emission model for the system that fits the Spitzer spectroscopy and Herschel images of the system. We find a minimum grainsize of 4 microns in the main ring and a distinct warm dust population interior to it. Faint detached emission features just outside the ring may trace a separate, more distant ring in the system. The non-detection of the ring in archival HST/ACS coronagraphic images limits the dust grain albedo in the ring to be no more than 10%.