Subaru High-Resolution Imaging of Disks Around Intermediate-mass Stars

Misato Fukagawa[1], Motohide Tamura[2], Masahiko Hayashi[3], Yoichi Itoh[4], Yumiko Oasa[4], Saeko S. Hayashi[3], and the Subaru/CIAO Team

(Email: misato@optik.mtk.nao.ac.jp)

[1]Department of Astronomy, University of Tokyo, Bunkyo, Tokyo, Japan
[2]National Astronomical Observatory of Japan, Mitaka, Tokyo, Japan
[3]Subaru Telescope, Hilo, Hawaii, USA
[4]Graduate School of Science and Technology, Kobe University, Kobe, Japan

Direct imaging is the simplest but the most powerful way to probe the spatial structure of disks that reflects the dynamical processes of disk material possibly relevant to planet formation. However, it has been difficult from the ground because it requires high spatial resolution, at least 0.1 arcsec. We present the results of near-infrared coronagraphic observations of relatively old Herbig Ae stars and Vega-like stars, using Subaru/CIAO with adaptive optics. The observations were carried out for over 10 nearby sources and a few extended disks were detected, including disks around AB Aur, HD 169142, and β Pictoris. We discuss the evolutionary change and diversity of disk structure around intermediate-mass stars.