

JTPF and Planet Finding Activities in Japan

Motohide Tamura (hide at optik.mtk.nao.ac.jp), NAOJ

Hiroshi Shibai, Nagoya University

Lyu Abe, NAOJ

Ryuji Suzuki, NAOJ

Jun Nishikawa, NAOJ

Keigo Enya, ISAS

Takao Nakagawa, ISAS

I would like to introduce recent activities, from both ground and space, on exoplanet and related studies in Japan. First I will summarize the results of indirect exoplanet observations and those of direct searches for exoplanets and disks on the Subaru telescope, which have shown diversity of exoplanets and morphological diversity of disks. I will also report the status of the new high contrast instrument for the Subaru telescope, HiCIAO. It will provide a powerful high contrast imaging capability with spectroscopic or polarimetric simultaneous differential imaging for self-luminous young planet or various disk detections. Then two future space missions discussed in Japan are introduced, which are closely related with planet finding and characterization. One is the coronagraph mode of the SPICA mission, a 3.5m MIR and FIR telescope, whose aim is to detect and characterize self-luminous outer planets around nearby stars. The other is the JTPF mission, a 3.5m optical and NIR off-axis telescope for the studies of Earth-like planets. The "Japanese-lead" TPF might make full use of the SPICA bus-system, with an optimization to the shorter working wavelengths. Alternatively, we are also seeking for a possibility of "Japanese-joining" TPF, which can be a collaborative joining with the foreign terrestrial planet finding missions. Various R&D activities for the space coronagraph developments at ISAS and NAOJ will be also introduced.