

Strategic Exploration of Exoplanets and Disks with Subaru (SEEDS): Observations Started

P54a

田村元秀、臼田知史、高見英樹 (国立天文台)、山田亨 (東北大学)、鈴木竜二 (TMT)、周藤浩士、森野潤一、早野裕、神鳥亮、工藤智幸、日下部展彦、橋本淳、松尾太郎 (国立天文台)、葛原昌幸 (東大)、後藤美和 (MPIA) ほか SEEDS/HiCIAO/AO teams

Since the first detection of exoplanets orbiting normal stars in 1995, many exciting discoveries have been made, but our understanding of planetary systems and their formation is far from complete. As demonstrated with recent successes of direct imaging of planetary-mass objects around Vega-type A stars and a G star, direct imaging approach is indispensable for the detection of such “young” planets, especially planets beyond the snowline (4-40AU), which is complementary to radial velocity or transit searches. The purpose of the SEEDS project is to conduct a direct imaging survey, searching for giant planets as well as protoplanetary/debris disks at a few to a few tens of AU regions around ~ 500 nearby solar-type or more massive young stars with the combination of the Subaru 8.2m telescope, the new high-contrast instrument HiCIAO, and the adaptive optics system AO188. After instrument performance verification, the SEEDS survey successfully started in October 2009. Although interrupted by a trouble of the AO188 deformable mirror, we have detected many companion candidates to be followed-up, and clear and much better detections of disks or details of known disks structures. In this talk, we will outline our goal, current status, early results, and future instrumentation plans. A full list of the current SEEDS member (~ 100 people) can be found on our web site.