

V42a Next generation High Contrast Imager with Adaptive Optics for the Subaru telescope: Concept and performance evaluation

アベリユウ、田村元秀、周藤浩士（国立天文台）

We present the concept of a new High Contrast Imager with Adaptive Optics instrument for the Subaru telescope: the HiCIAO. The HiCIAO is designed to observe disk structures around YSOs as well as to detect faint companions and planets very close to their parent star up to a contrast of 10^5 to 10^6 and within a field of $2''$ at most. This dedicated instrument will be evolutive, modular and upgradable starting from a baseline concept with a precise science goal. It is envisaged to further implement or upgrade separate parts such as the coronagraph or the camera optics, taking advantage of 1) telescope stability, and 2) space offered by the Nasmyth platform. We present preliminary computer simulations of the HiCIAO including various instrumental effects and detail envisaged solutions to overcome the atmospheric turbulence noise regarding specific science targets.