

P224a A High-contrast Polarimetry look of T Tau Circumstellar Environment

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As a triple star system with possible protoplanetary disks, research towards T Tau, the prototype of T Tauri star, could undoubtedly be beneficial for us to understand the planet/disk formation and evolutions process in multiple star systems. In this talk, we will present the recent Subaru/HiCIAO high-contrast polarimetry observation result of T Tau in H band, which shows a complicated circumstellar environment around this triple-star system. In our observation, we confirm the existence of some structures ever detected in some previous high contrast observations, like hydrogen ro-vibrational emission-line observations and near infrared continuum (J/H/K bands) observations. After comparing the appearance and positions of these structures observed in different bands and time, we successfully constrain the origins and directions of the outflows in this system, as well as the disk sizes around each component stars. This result will be quite helpful for us to improve our understanding of T Tau, as well as the planet/disk evolution process in binary/multiple systems.