Structure of the protoplanetary disk around V1094 Sco obtained from dust continuum emission and SED

*Sanemichi Takahashi^{1,2}, Takayuki Muto¹, Takashi Tsukagoshi², Jun Hashimoto²

1. Kogakuin University, 2. NAOJ

Understanding the structure of protoplanetary disks is important for revealing the environment of planet formation. Recent ALMA observations have found that detailed structures are formed in protoplanetary disks. In this work, we investigate the structure of the protoplanetary disk around V1094 Sco. We performed numerical calculations of radiative transfer and compared the results with dust continuum emission obtained from ALMA Band 8 observations and SED. According to the dust continuum emission, we found that the disk consists of two regions, inner optically thick region (< 100 au) and outer optically thin region (> 100 au) . We also found that the results can reproduce the SED observations well when (1) disk inner edge is puffed up and the shadow is formed behind it and (2) the small grain (< 1 um) is depleted in the inner region.

Keywords: protoplanetary disks