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High spatial observations of protoplanetary disks review

Protoplanetary disks are the sites of planet formation but how dust particles evolve into planets in the disks and finally form as a planetary system is a long-standing mystery. In this talk, I will review our understanding of protoplanetary disks in an observational viewpoint and show recent NIR and mm/sub-mm observational results in terms of disk demographics, geometrical structures, dust properties, dust trapping and grain growth and polarization. In particular, the disks with holes or gaps with mass transfer seen as a steamer crossing the disk that many researchers have posited as the signpost of planets will be stressed. I will also introduce chemical composition of the disk including pre-biotic organic materials. I will conclude by showing future directions for our study of planet formation and new observational instruments and operations in the coming years that may provide the answer for the key questions.

Biography

Eiji Akiyama obtained his PhD in 2012 from Ibaraki University, Japan. He has been working as a science staff of the Atacama Large Millimeter/submillimeter Array (ALMA) international project. He has published around 50 papers covering planet formation and exoplanets based on observations of near-infrared and millimeter/submillimeter wavelength. He won the outstanding young scientist award 2016 from the Japanese Society of Planetary Science.

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