

Subject : Planetary system formation

Title : Exoplanetary systems and their formation

Lecturer : Misato Fukagawa (ALMA Project)

Outline : More than 5,500 planets associated with stars other than the Sun (exoplanets) have been discovered, and their diverse characteristics have been revealed. Where do these diverse characteristics come from, and how did the solar system come to be in its present form? Research to answer these questions has actively been pursued, and this research field is showing rapid progress. In this lecture, we will review the observational achievements so far to understand formation processes in birthplaces of planets (protoplanetary disks) around young stars.

Learning objectives :

- Learn about the challenges of the research field on extrasolar planets.
- Understand the basic physical environment of protoplanetary disks.

Textbooks and references :

- Protostars and Planets VII, Shu-ichiro Inutsuka, Yuri Aikawa, Takayuki Muto, Kengo Tomida, and Motohide Tamura, 2023, Astronomical Society of the Pacific
- Astrophysics of Planet Formation, Philip J. Armitage, 2020, Cambridge University Press