

PPS007-10

Room: 301A

Time: May 26 16:15-16:30

Science of Jovian planets

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Because of the great distance from the earth and the sun, exploration of Jovian planet requires a long time span of planning and execution. In spite of those difficulties, Saturn system has been extensively explored by Cassini/Huygens in this half decade, and, Jupiter system will experience a new cycle of exploration from later 2010s to 2020s including JUNO and EJSM. Additionally, the discovery of hundreds of extrasolar giant planets prompts us for re-examination of the outer planets of our solar system in broader context.

In this presentation, with this background in mind, important scientific issues concerning Jovian planets, focusing mainly on their atmospheres, magnetospheres, and icy satellites, will be summerized, and future direction of scientific research including explorations will be discussed.

Keywords: Planetary Science, Planetary Exploration, Jovian planets, future survey, atmosphere, icy satellites