

# 第21回 RESCEU コロキウム



東京大学大学院理学系研究科 附属ビッグバン宇宙国際研究センター

日 時: 2018年3月23日(金) 16:00 ~ 17:00

場 所: 理学部4号館1階ピロティ RESCEU セミナー室

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## Satellite formation from rings

The world of Saturn is fascinating. Cassini's stunning pictures have revealed an extraordinary diversity in the satellites and the rings. However, one intriguing feature appears to link them: the mass of the satellites increases as a power law of their distance to the rings. This can not be explained in the classical model of satellite formation in a gaseous disk around the planet, like a mini-solar system.

In this seminar, I will show that Saturn's satellites are actually formed from the spreading of the rings beyond the Roche radius. Starting from basic notions, this model will be explained. In particular, it will be demonstrated how this mechanism explains the mass - distance feature. The history of the evolution of the rings and the satellites can then be revisited.

Finally, I will argue that this mechanism can be generalized to all planets of the Solar System (except Jupiter), and that most regular satellites are born from the spreading of massive planetary ring !

興味をお持ちの方の聴講を歓迎致します。お茶とお菓子を用意しております。