

# 第 67 回 RESCEU コロキウム



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日 時: 2024 年 12 月 12 日(木) 15:30 ~ 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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## Structure Formation on Very Small Scales at Very Early Times

### Abstract

The LambdaCDM model of cosmology does a remarkable job explaining our observations of the Universe's largest length scales with few requirements about its' smallest. On the other hand, the lack of information about small scale dynamics means the nature of cold dark matter (CDM) has so far been hidden. In this talk I will explore the possibility that nonlinear structure formation may begin on these scales much earlier than expected, either from enhanced inflationary fluctuations or from the dark matter microphysics itself. In the former, CDM halos form at earlier times in the matter epoch, while in the latter they can form even in the radiation era. For both cases I will show the results of numerical simulations of the nonlinear collapse, as well as discuss potential observational signatures and the possibility of non-stellar black hole formation.

興味をお持ちの方の聴講を歓迎致します。