

第 59 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: 2023 年 11 月 20 日(月) 14:30 ~ 16:00

場 所: 理学部 4 号館 1 階ピロティ RESCEU セミナー室

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Vlasov versus N-body

Abstract

Dark matter in the Universe can be considered as a collisionless self-gravitating fluid obeying the Vlasov-Poisson equations. In practice, resolving dark matter dynamics relies on a N-body approach, but with the advent of exaflop computers it becomes now possible to solve directly Vlasov dynamics in six-dimensional phase-space. In this talk I will compare particle-mesh simulations to Vlasov runs in the framework of the formation of dark matter microhalos. I will also discuss recent results obtained for the profile of microhalos, notably the appearance of "prompt cusps" which could survive until the present time and increase the probability of indirect detection of dark matter compared to standard calculations.

興味をお持ちの方の聴講を歓迎致します。