

# 第33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11月12日(月) 15:00 ~ 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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## Stochastic dark energy from inflationary quantum fluctuations

Late time quantum backreaction from inflationary fluctuations of a very light, non-minimally coupled scalar field which was a spectator one during inflation is studied. It is shown that this quantum field is a viable candidate for the present dark energy. The problem is solved by suitably adapting the stochastic inflationary formalism. This allows to account self-consistently for its potentially large backreaction on the background expansion rate of the present Universe. This framework is equivalent to that of semiclassical gravity in which the matter vacuum fluctuations are included at the one loop level while purely quantum gravitational fluctuations are neglected. The results show that dark energy in this model has a rather specific effective equation of state parameter as a function of redshift. This allows for testing the model using cosmological observational data on the Universe background evolution. (based on D. Glavan, T. Prokopec, and A. A. Starobinsky, Eur. Phys. J. C 78, 371 (2018); arXiv:1710.07824)

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