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Yuichiro Tada: StocDeltaN: numerical approach to inflation in combination of the stochastic and delta N formalism

mardi 10 novembre 2020 10:00 (45 minutes)

The stochastic approach to inflation enables us to treat the superhorizon perturbations in a non-perturbative way.
Though it deals only with the inflatons'perturbations in itself, fluctuations in the duration of inflation
can be connected with the observable curvature perturbations from the viewpoint of the delta N formalism.
In 2015, Vennin and Starobinsky revealed the adjoint Fokker-Planck equation for the probability density function of
such time fluctuations.
We with Renaux-Petel are now developing a C++ package to automatically solve this adjoint FP eq. and
enable a full stochastic analysis for arbitrary models of inflation.
I'll introduce this ongoing project with several examples.