Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Entanglement production and Lyapunov exponents LUCAS HACKL, EUGENIO BIANCHI, NELSON YOKOMIZO, Pennsylvania State Univ — Squeezed vacua play a prominent role in quantum field theory in curved spacetime. Instabilities and resonances that arise from the coupling in the field to the background geometry, result in a large squeezing of the vacuum. In this talk, I discuss the relation between squeezing and Lyapunov exponents of the system. In particular, I derive a new formula for the rate of growth of the entanglement entropy expressed as the sum of the Lyapunov exponents. Examples of such a linear production regime can be found during inflation and in the preheating phase directly after inflation.

Lucas Hackl
Pennsylvania State Univ

Date submitted: 30 Sep 2016   Electronic form version 1.4