

## Coherent Squeezed Vacuum State and Validity of Semi-classical Theory of Gravity

A non-classical inflaton which is minimally coupled to the semiclassical theory of gravity in the flat Friedmann-Robertson-Walker (FRW) universe. Using a Coherent Squeezed Vacuum State, we analyzed the validity of the semiclassical theory of gravity by computing density fluctuations in the oscillatory phase of the inflaton. The current study is for density fluctuations of non-classical inflaton of coherent squeezed vacuum state due to the coherent and squeezing effects using the operator method in the semiclassical theory of gravity.

### Track type

Cosmology

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