Contribution ID: **125** Type: **20 minutes talk**

A stochastic approach to scalar correlators in cosmological de Sitter

Thursday, 16 December 2021 18:00 (30 minutes)

The study of scalar correlation functions in de Sitter spacetime is important to develop our understanding of the inflationary epoch. However, the standard procedure of QFT in a curved spacetime can only be used in a regime where the fields are sufficiently massive. This is because light self-interacting scalar fields cause perturbation theory to break down due to infrared divergences. This leads us to develop effective theories, one of which - the stochastic approach - will be the subject of this talk. In a nutshell, the stochastic approach approximates quantum behaviour as a statistical correction to the classical equations of motion. This allows the theory to be cast as a purely statistical problem, leading to statistical correlation functions. The question that I will pose and attempt to answer is: are these stochastic correlators an appropriate replacement for their quantum counterparts?

Could you please give the most relevant category for your talk?

Cosmology

Will you be pre-recording your talk?

No

Would you be interested in receiving feedback on your presentation?

Yes

Are you happy for your talk to be recorded?

Yes

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Session Classification: Full-length talks