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CosmoFlow

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Correlation functions of primordial density fluctuations provide an exciting probe of the physics governing the earliest moments of our Universe. However, the standard approach to compute them is technically challenging. Theoretical predictions are therefore available only in restricted classes of theories, which can completely bias the interpretation of data.

In this talk, I will present the cosmological flow: a complete method to systematically compute tree-level primordial correlators in any theory, bypassing the intricacies of Feynman diagram computations. This framework enables one to capture all effects—including e.g. the imprints of additional particles and breaking scale-invariance—for the reason that it relies on following the time evolution of these correlators from the initial quantum vacuum state to the end of inflation.

I will then explicitly show with simple examples how to use the upcoming code CosmoFlow that will soon be publicly released.

Auteurs principaux: WERTH, Denis (Sorbonne University – IAP); Dr RENAUX-PETEL, Sébastien (IAP - CNRS)

Orateur: WERTH, Denis (Sorbonne University – IAP)

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