Contribution ID: **29**   Type: **not specified**

Bispectrum at 1-loop in the Effective Field Theory of Inflation

Wednesday 30 October 2024 11:50 (20 minutes)

We compute 1-loop corrections to the Bispectrum in the decoupling limit of the Effective Field Theory of Inflation (EFToI). We employ dimensional regularization to calculate the integrals and find that final results include structures of the form $\log\left(\frac{H}{\mu}\right)$, where H is the Hubble parameter and μ is the renormalisation scale, and logarithms of ratios of comoving momenta i.e. $\log\left(\frac{k_i}{k_T}\right)$, where $k_{i=1,2,3}$ are the modes and $k_T = \sum_i k_i$. In all our calculations the unrenormalised answers feature unphysical logarithms of k/μ, which are cancelled only after renormalisation. We expect this to be a generic feature for loop corrections to higher point functions, unless there is some cancellation as in the previously computed two-point 1-loop result (arXiv:0912.2734).

Primary authors: GHOSH, Diptimoy; ULLAH, Farman (Indian Institute of Science Education and Research, Pune); BHOWMICK, Supritha

Presenter: BHOWMICK, Supritha