
C-KMI Joint Seminar

Thursday, April 23, 2015

15:30 pm, KMI Science Symposia (ES-635)

“Statistical Anisotropy in the CMB from a Two-form Field”

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Abstract:

We study an inflationary scenario with a two-form field to which an inflaton couples non-trivially. We show that the two-form hair remains during inflation. Consequently, a statistical anisotropy can be developed because of a cumulative anisotropic interaction induced by the background two-form field. The power spectrum of curvature perturbations has a prolate-type anisotropy, in contrast to the vector models having an oblate-type anisotropy. We also evaluate the bispectrum and trispectrum of curvature perturbations by employing the in-in formalism based on the interacting Hamiltonians. We find that the non-linear estimators f_{NL} and τ_{NL} are correlated with the amplitude g_* of the statistical anisotropy in the power spectrum.