Abstract

Following our talk two months ago, the basics of matrix inflation and the recent progresses are presented. In this model, inflaton fields are the non-commutative matrices. The inflationary potential is constructed from interaction of matrices and their commutators. It is shown that the matrix inflation can solve the fine-tunings associated with the standard chaotic inflation models. Furthermore, due to matrix nature of the inflaton fields, there are many scalar fields present in the model which produce entropy perturbations besides the usual curvature perturbation. The formalism to calculate the power spectra for curvature and entropy perturbations are presented and the constraints from CMB are reviewed.