Saha Theory Workshop: Cosmology at the Interface

Contribution ID: 53

Type: Contributory Talks

## **N-flation in Supergravity**

Thursday 29 January 2015 14:30 (15 minutes)

We have constructed a large field N-flation model in the Supergravity framework. In this simple set-up, N fields collectively drive inflation where each field traverses sub-Planckian field values. This has been realised with a generalisation of the single field chaotic inflation in Supergravity. Interestingly,despite of the presence of the field interactions, the dynamics can be described in terms of an effective single field. With the help of a simple example we have explicitly showed how a two field dynamics is effectively reduced to a single field. Then we extended our argument for N fields.The observable predictions of our model i.e. tensor to scalar ratio r and scalar spectral index ns are close to the chaotic inflationary model with quadratic potential

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