Seminar

Andrew Day, UNB, Fredericton

Wednesday, July 24, 2013

3:00pm

HH3017

Primordial fluctuations from deformed uncertainty relations

ABSTRACT:

We consider the effects of modified uncertainty relations on the generation of primordial perturbations during inflation. Our approach involves high-energy deformations of the commutator algebra between the Fourier-transformed amplitude and momentum of scalar perturbations. We find that a certain class of deformations of the Heisenberg algebra leads to primordial spectra that are potentially consistent with current data yet observationally distinguishable from the standard case. On the other hand, another class of deformations results in drastically altered predictions and is hence likely to be ruled out by current cosmological probes.