

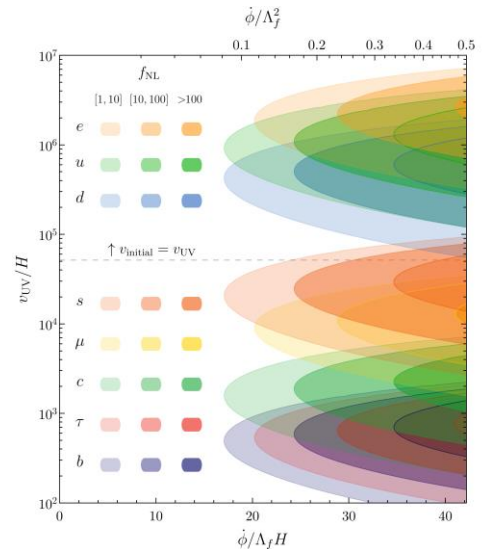
LABORATORY FOR ELEMENTARY-PARTICLE
PHYSICS (LEPP)

Theory Seminar

Junwu Huang

Perimeter

**Searches for other vacua:
A new Higgstory at the
cosmological collider**



The cosmological collider allows one to measure, through non-analytic correlations of inflationary density perturbations, three parameters of a heavy particle during inflation: spin, coupling, and mass. To date though, the cosmological collider literature focuses solely on models which have these three parameters as independent variables, and there is thus essentially no differentiating power between the different models. We propose the first models where relations can be established between different measurable parameters, and therefore the first that can be conclusively distinguished from other models. These models provide the most minimal signatures of the Standard Model at the cosmological collider depending on a single coupling between Standard Model fermions and the inflaton, making the cosmological collider a new tool to look for physics beyond the Standard Model.

Friday, Nov. 8, 2019

1:00pm

401 Physical Sciences Building