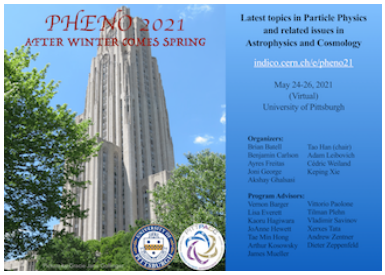

Contribution ID: **1221** Type: **SUSY**

Landscape Higgs and sparticle mass predictions from a logarithmic soft term distribution

Tuesday 25 May 2021 15:00 (15 minutes)

Recent work on calculating string theory landscape statistical predictions for the Higgs and sparticle mass spectrum from an assumed power-law soft term distribution yields an expectation for m(h)˜ 125 GeV with sparticles (save light higgsinos) somewhat beyond reach of high-luminosity LHC. A recent examination of statistics of SUSY breaking in IIB string models with stabilized moduli suggests a power-law for models based on KKLT stabilization and uplifting while models based on large-volume scenario (LVS) instead yield an expected logarithmic soft term distribution. We evaluate statistical distributions for Higgs and sparticle masses from the landscape with a log soft term distribution and find the Higgs mass still peaks around ˜125 GeV with sparticles beyond LHC reach, albeit with somewhat softer distributions than those arising from a power-law.

Summary

Authors: SENGUPTA, Dibyashree (University of Oklahoma); BAER, Howard (University of Oklahoma); SALAM, Shadman (UNIVERSITY OF OKLAHOMA); BARGER, Vernon (University of Wisconsin, Madison)

Presenter: SALAM, Shadman (UNIVERSITY OF OKLAHOMA)

Session Classification: SUSY I