

# Cosmological Collider and Higgs: Primordial Non-gaussianity & Gravitational Waves

*Monday, September 22, 2025 9:30 AM (30 minutes)*

Cosmological collider signals of primordial non-Gaussianity arise at tree level when an extra scalar has Hubble mass during inflation. We critically review the formalism finding that a large class of inflationary theories, based on Planck-scale physics, predict a scalar bi-spectrum around the gravitational floor level. This mild signal arises for example in R22 gravity, in the regime where its gravitational scalar has Hubble-scale mass. Signals much above the gravitational floor arise in theories where scalars undergo multiple turns during inflation, thanks to sub-Planckian physics.

**Primary author:** GHOSHAL, Anish (University of Wasrsaw, Poland)

**Presenter:** GHOSHAL, Anish (University of Wasrsaw, Poland)

**Session Classification:** Plenary 1

**Track Classification:** Plenary