

## Particle Physics on the Plains 2019



Contribution ID: 23

Type: **not specified**

# Non-resonant Higgs Production in Scalar Extended Model at the LHC

*Saturday 12 October 2019 16:30 (20 minutes)*

We investigate the collider signature of the real singlet extension of the standard model.

A definitive correlation exists between the strength of the phase transition and the trilinear coupling of the Higgs to two singlet-like scalars, and hence between the phase transition and non-resonant scalar pair production involving the singlet at colliders.

We study the prospects for observing these processes at the high luminosity LHC, focusing particularly on the associated production of singlet and the SM Higgs.

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**Session Classification:** Higgs