



Contribution ID: 401

Type: parallel talk

Non-resonant Collider Signatures of a Singlet-Driven Electroweak Phase Transition

Tuesday, 9 May 2017 16:30 (15 minutes)

We analyze the collider signatures of the real singlet extension of the Standard Model in regions consistent with a strong first-order electroweak phase transition and a singlet-like scalar heavier than the Standard Model-like Higgs. We study the prospects for observing these processes at the LHC and a future 100 TeV pp collider, focusing particularly on double singlet production. We also discuss correlations between the strength of the electroweak phase transition and other observables at hadron and future lepton colliders. Searches for non-resonant singlet-like scalar pair production at 100 TeV would provide a sensitive probe of the electroweak phase transition in this model, complementing resonant di-Higgs searches and precision measurements.

Summary

Primary authors: LEWIS, Ian (The University of Kansas); KOZACZUK, Jonathan (TRIUMF); CHEN, Chien-Yi (Brookhaven National Laboratory)

Presenter: LEWIS, Ian (The University of Kansas)

Session Classification: Future Colliders