

## Status of the SHIFT project

*Monday 23 November 2020 14:45 (15 minutes)*

The presentation will summarize the scope and status of the SHIFT project, which is a collaboration between experimental and theoretical particle physicists at Chalmers, Stockholm and Uppsala. The focus is to search for top partners that can protect the mass of the Higgs boson from large quantum corrections. We study possible signatures of such top partners and search for them using data from the ATLAS experiment. This presentation will cover potential signatures, and direct searches for top partners in supersymmetry and composite Higgs models as well as indirect searches via precision measurements of processes involving top quarks. Furthermore, we study the production of a pair of Higgs bosons via 1-loop processes involving the propagation of the top quark as well as top partners in the loop.

### Abstract Track

LHC

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