



Contribution ID: 99

Type: **Talk**

【364】 Search for Top Squark Pair Production with zero Lepton Final States using ATLAS Run 3 Data

Thursday 12 September 2024 17:45 (15 minutes)

A search for direct top squark pair production is presented using ATLAS Run 2 and Run 3 data containing no leptons in the final state. The mass of this supersymmetric partner of the top quark is suggested to be at the TeV scale due to naturalness considerations and could therefore be produced at the LHC.

Different scenarios are considered where the top squark eigenstates decay into final states with many jets and missing transverse momentum. A strict veto on any leptons together with a high missing transverse momentum and specific criteria on the various jets are strong tools to discriminate our signal against Standard Model events background.

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Session Classification: Nuclear, Particle- & Astrophysics (TASK)

Track Classification: Nuclear, Particle- and Astrophysics (TASK)