



Contribution ID: 219

Type: **Talk**

【347】 Search for top squark pair production in events with Z bosons

Wednesday 28 August 2019 18:30 (15 minutes)

A search for direct top squark pair production is presented using Run 2 ATLAS data in final states containing at least three leptons and missing transverse momentum. Naturalness considerations suggest the third generation squark masses should be around the TeV scale and hence could be produced at LHC.

Models are considered where a pair of the heavier top squark mass eigenstates is produced, which decay into the lighter top squark and a Z boson. The light top squark subsequently decays into a top quark and the lightest neutralino. The leptonic decay of the Z bosons is exploited in addition to the missing transverse momentum from the neutralinos in order to discriminate against background Standard Model events.

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Session Classification: Nuclear, Particle- & Astrophysics

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