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## Third generation scalar leptoquark search using top quark polarization

Friday 16 December 2022 14:00 (1 hour)

We study the effect of NLO QCD correction merged with parton shower on the distribution of polarization observables that are associated to the top quark polarization and examine the prospect of identifying the genesis of scalar leptoquark by looking into their pair production at the LHC. We study various angular and energy variables at the NLO+PS accuracy to distinguish scalar leptoquarks originating from different models and do multivariate analysis with jet-substructure variables to reach a higher discovery potential.

### Session

Beyond the Standard Model

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