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Measurement of the top decay spectrum in the t-channel production mechanism with the ATLAS detector

This work examines the decay spectrum of top quark produced via the t-channel production mechanism. The vast quantity of data collected by ATLAS during run-2 allows for a unique opportunity to study the top quark via this production mechanism. Here the top quark is produced via an electroweak interaction and thus top quarks are produced polarized. Therefore it is a unique channel to study the electroweak interactions of top quarks and to search for additional sources of CP violation. By analyzing angular correlations among the decay products, the three-dimensional polarization is measured. In addition, the results are also used to derive bounds on operators in an effective field theory.

Collaboration / Activity

ATLAS

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