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Prima misura della sezione d'urto del processo single top nel canale t in collisioni p-p ad un energia di 5 TeV in ATLAS

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The t-channel single top quark production is measured in proton-proton collisions at a center of mass energy of 5 TeV with 257 pb−1 of data collected by the ATLAS detector. The measurement uses a Boosted Decision Tree (BDT) trained on Monte Carlo to separate signal from background. The output distribution of the BDT is used for the profile-likelihood fit. The analysis takes various calibrations from the recent top-quark pair production cross-section measurement at 5 TeV with the ATLAS detector. To increase the sensitivity to the t-channel single-top process, the analysis selects also forward jets, with an ad-hoc calibration. The analysis also looks at the top quark and anti-top quark cross-sections production separately and their ratio.

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