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## Measurement of the single top quark production cross section in pp collisions with the ATLAS detector

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Measurements of the single top quark production cross sections in proton proton collisions with the ATLAS detector at the Large Hadron Collider are presented.

Measurements of single topquark production in the  $t\bar{t}$  and  $Wt$  channels

are shown and

determination of the CKM matrix element  $|V_{tb}|$  is discussed. We also discuss the separate

measurement of the top and antitop quark cross section and the ratio. These measurements

are sensitive to the parton distribution function in the proton. In addition, the  $s$  channel

production is explored and the results of a search for flavor changing

neutral currents in the single top production is presented.

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**Session Classification:** Top and Electroweak Physics

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