Contribution ID: **221** Type: **Parallel contribution**

Measurements of spin correlation in

boldsymbolt$production at D0$

Wednesday, 10 August 2011 17:50 (20 minutes)

We measure the correlation between the spin of the top quark and the spin of the anti-top quark in $t\bar{t} \to W^+bW^-\bar{b}$ final states produced in $p\bar{p}$ collisions at a center of mass energy $\sqrt{s} = 1.96$˜TeV, using data collected with the D0 detector at the Fermilab Tevatron collider. The correlation is extracted using a double differential angular distribution and a novel technique using matrix element integration is used to increase the sensitivity of the result, Measurements are performed in both the dilepton and lepton+jets final states.

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Session Classification: Top Quark Physics

Track Classification: Top Quark Physics