

Abstract Submitted  
for the APR05 Meeting of  
The American Physical Society

**Probing strange quark in proton using  $p\bar{p} \rightarrow Wc$  at DØ** MAHSANA AHSAN, Kansas State University, DZERO COLLABORATION — I will describe a measurement of s-quark parton distribution function(PDF) using the DØ detector at Fermilab Tevatron. As s-quark PDF has only been measured in  $\nu N$  deep inelastic scattering, it is important to know if the same PDF works in  $p\bar{p}$  inelastic experiments at  $\sqrt{s} = 1.96\text{TeV}$ . Importance of the measurement of s-quark PDF also arises in the tests of QCD and EW dynamics and the background measurements of the New Physics processes(e.g  $\tilde{t} \rightarrow c\tilde{\chi}^0$ ). To measure s-quark PDF I chose to study  $W + c$  production in  $p\bar{p}$  collisions via the parton level processes  $sg \rightarrow W^-c$ ,  $\bar{s}g \rightarrow W^+\bar{c}$ ,  $dg \rightarrow W^-c$  or  $g\bar{d} \rightarrow W^+\bar{c}$ , where  $d$ -quark and gluon fusion contribute about 15% of the total  $Wc$  production rate. The ratio of  $W + c$  cross section to the inclusive  $W + 1j$ , is of the order of  $10^{-2}$  - dependent on the Pt of the jet. A study of the sensitivity of this ratio to the parametrization of the s-quark PDF may eventually allow us to determine a precise distribution function. Current status of analysis is the studies of charm tagging efficiencies in MC, the event selection efficiencies and signal to background ratios.

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Date submitted: 10 Jan 2005

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