

DNP08-2008-000364

Abstract for an Invited Paper  
for the DNP08 Meeting of  
the American Physical Society

### **Longitudinal Spin Transfer of Hyperons in Polarized Proton-Proton Collisions<sup>1</sup>**

ERNST SICHTERMANN, Lawrence Berkeley Laboratory

We report on measurements of the longitudinal spin transfer  $D_{LL}$  in the inclusive production of  $\Lambda$  and  $\bar{\Lambda}$  hyperons in 200 GeV longitudinally polarized proton-proton collisions. At large transverse momenta  $D_{LL}$  is sensitive to the helicity distributions of strange quarks and anti-quarks in the polarized proton, and to polarized fragmentation functions. The data were collected with the Solenoid Tracker At RHIC (STAR) in 2005 and correspond to a sampled integrated luminosity of  $\sim 3\text{pb}^{-1}$  and  $\sim 50\%$  beam polarization. Preliminary results on  $D_{LL}$ , covering mid-rapidity and transverse hyperon momenta up to 4 GeV/c, will be presented and followed by an outlook on future hyperon spin transfer measurements.

<sup>1</sup>On behalf of the STAR Collaboration.