

# XXIV International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS16)



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## Final results on the spin dependent structure function $g_1^d$ from COMPASS

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The COMPASS experiment at CERN SPS has taken data with a polarised muon beam scattering off a polarised LiD target from 2002-2004. The same measurement was also performed in 2006 increasing the statistics by roughly a factor of two.

The new results from 2006 data on the longitudinal double spin asymmetry  $A_1^d$  on the spin dependent structure function  $g_1^d$  will be shown and compared to the previous results from 2002-2004. Using the combined data set the first moment of  $g_1^d$  is calculated. This quantity is used to calculate the singlet axial charge  $a_0$ , which is equal to  $\Delta\Sigma$  in the  $\overline{\text{MS}}$  scheme. Using also the axial charges  $a_3$  and  $a_8$  the first moments of the quark helicity distributions are obtained. In addition the influence on the Bjorken sum rule will be discussed.

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**Primary author:** Mr WILFERT, Malte (Johannes-Gutenberg-Universitaet Mainz)

**Presenter:** Mr WILFERT, Malte (Johannes-Gutenberg-Universitaet Mainz)

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