

Abstract Submitted  
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**Resonant Spin Structure (RSS) of the Proton** KARL SLIFER, University of Virginia, JLAB RSS COLLABORATION — Spin-dependent structure functions have been extracted from an inclusive doubly polarized asymmetry measurement at low momentum transfer ( $Q^2 \approx 1.3\text{GeV}^2$ ) in the resonance region. Longitudinally polarized electrons of incident energy 5.755 GeV were scattered from a polarized solid ammonia target in Jefferson Lab's experimental Hall C. Both  $\text{NH}_3$  and  $\text{ND}_3$  were used as target material giving access to the proton and deuteron spin structure respectively. For the first time at low  $Q^2$  and in the resonance region, proton asymmetries were measured with both perpendicular and parallel target field orientation, allowing a precision determination of the spin structure functions  $g_1(x, Q^2)$  and  $g_2(x, Q^2)$ . The  $W$ -dependence of the nucleon spin asymmetries  $A_1(W, Q^2)$  and  $A_2(W, Q^2)$  has been measured with high resolution, allowing for clear identification of individual resonance regions. Preliminary proton data will be presented which enable a test of local duality in the polarized structure functions. The moments of the spin structure functions, including the extended GDH sum and the  $d_2$  matrix element, are also evaluated and compared with theoretical expectations.

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