

The g_2^p experiment: A Measurement of the Proton's Transverse Spin Structure Function

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Abstract

This poster will present an overview of the g_2^p experiment which successfully ran in spring 2012. The experiment was an inclusive measurement of the proton's transverse spin structure function, g_2^p , in the resonance region at Jefferson Lab's Hall A. This is the first measurement of g_2^p covering $0.02 \text{ GeV}^2 < Q^2 < 0.2 \text{ GeV}^2$. The experiment will allow us to test the Burkhardt-Cottingham Sum Rule at low Q^2 as well as extract the longitudinal-transverse generalized spin polarizability and compare it to predictions made by Chiral Perturbation Theory. In addition, the data will reduce the systematic uncertainty of calculations of the hyperfine splitting of hydrogen and the proton charge radius from eP scattering.