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SIDIS Single Pion Beam Spin Asymmetry measurements with CLAS 12 PAUL STOLER, Rensselaer Polytechnic Insti. and Univ. of Connecticut, STEFAN DIEHL, Justus Liebig University Giessen and Univ. of Connecticut, JEFFERSON LAB CLAS COLLABORATION COLLABORATION — The CLAS12 detector at Jefferson Laboratory (JLab) started data taking with a polarized 10.6 GeV electron beam, interacting with an unpolarized liquid hydrogen target in February 2018. The collected statistics enable a high precision study of the structure function ratio $F_{LU}^{\sin\phi}/F_{UU}$ corresponding to the polarized electron beam spin asymmetry in semi-inclusive deep inelastic scattering. $F_{LU}^{\sin\phi}$ is a twist-3 quantity which provides information about the quark gluon correlations in the nucleon. The contribution will present a simultaneous study of all three pion channels (π^+, π^0 and π^-) over a large kinematic range of z, x_B, P_T and Q^2 with virtualities Q^2 ranging from 1 GeV^2 up to 8 GeV^2. Based on the available statistics, a fully multidimensional analysis becomes possible for the first time. The results will be compared with various model calculations.

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