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Highlights from the Spin Experimental Program at STAR¹ STEPHEN TRENTALANGE, University of California at Los Angeles

The RHIC accelerator complex has the capability to collide polarized protons with arbitrary spin combinations in the energy range from 62-500 GeV. The particle tracking and calorimetry coverage of the STAR experiment allows us to measure both longitudinal and transverse, single and double spin asymmetries for final state particles such as pions, jets and Ws from central rapidity to nearly beam rapidity. Each of these measurements serves a purpose in resolving the spin of the proton into it's constituent parts. We will present an overview of the STAR proton spin program through the measurement of spin asymmetries of different types: double-longitudinal asymmetries which are sensitive to the gluon spin, single-longitudinal asymmetries for Ws which come from anti-u and d quark flavor asymmetries at low x and the large single transverse asymmetries at forward rapidities which arise from the partonic transverse momentum within the proton.

¹for the STAR Collaboration