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Measurement of transverse single spin asymmetries of very forward η mesons in $\vec{p}$+p collisions in PHENIX DAVID KLEINJAN, University of California, Riverside, PHENIX COLLABORATION — The measurement of transverse single spin asymmetries (SSA or A_N) provide insight into the structure of the nucleon. Several mechanisms have been proposed that attempt to explain A_N based on QCD, and additional measurements of A_N for different processes further constrain these models. Using the PHENIX detector at the Relativistic Heavy Ion Collider (RHIC), we study transversely polarized p+p collisions. Results from PHENIX and other RHIC experiments show significant asymmetries in the very forward region, which could be due to contributions from both the Sivers and the Collins effects. Studying the species as well as the kinematic dependencies of these transverse SSAs will help to disentangle the origin of the observed asymmetries. Therefore, measurements of A_N with inclusive η mesons at very forward rapidities is an important tool for the understanding of these asymmetries. In 2008, the PHENIX experiment collected 5.2 pb^{-1} integrated luminosity in $\vec{p}+p$ collisions at $\sqrt{s}$=200 GeV. The status of η meson asymmetry analysis at very forward rapidity will be shown.

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