Refinement of Global Phase-Shift Analysis for $p + ^3\text{He}$ Elastic Scattering Using Spin-Correlation Coefficients\textsuperscript{1} TIM DANIELS, CHARLES ARNOLD, JOHN CESARATTO, THOMAS CLEGG, ALEXANDER COUTURE, ASTRID IMIG, HUGON KARWOWSKI, University of North Carolina at Chapel Hill and Triangle Universities Nuclear Laboratory — As part of an investigation of the $A=4$ system, we measured the spin-correlation coefficients $A_{xy}$, $A_{oy}$, $A_{yy}$, and $A_{xx}$ for $p-^3\text{He}$ elastic scattering at $E_{\text{lab}}$ of 2.3, 2.7, 4.0, and 5.5 MeV and $\Theta_{\text{lab}}$ between 30° and 150°. The data were taken using TUNL’s atomic beam polarized ion source and our spin-exchange optical pumping polarized $^3\text{He}$ target\textsuperscript{2}. We aim to resolve ambiguities in the phase shifts of George and Knutson\textsuperscript{3}, which seem most sensitive to $A_{xx}$ and $A_{yy}$ at the lowest of these energies. Our measurements will be shown with phase-shift-analysis solutions, as well as some discussion of systematic effects related to the steering of charged particles by the target’s magnetic field.

\textsuperscript{1}Work supported in part by USDOE grant #DE-FG02-97ER41041.