Investigation into polarization uncertainty minimization of solid polarized targets

D. Keller

Department of Physics
382 McCormick rd. Charlottesville, VA 22904-4714
dustin@jlab.org

A discussion of uncertainty minimization in the polarization produced by Dynamic Nuclear Polarization is presented. Techniques of error estimation and minimization are outlined for the use in polarized data analysis. Procedures for minimizing uncertainty in a setting such as the Jefferson Lab solid polarized target experiments are described with examples using recent experiments. Both the proton and deuteron targets are considered. Techniques in the deuteron tensor polarization enhancement and enhanced tensor polarization measurement uncertainty are also discussed in the interest and preparation of future experiments.