



Contribution ID: 44

Type: not specified

Magnetic Field Requirements for the CLAS12 Polarized Target

Monday, 23 September 2019 11:00 (20 minutes)

Upcoming spin structure experiments in Hall B at Jefferson Lab will employ a new dynamically polarized target inside the CLAS12 detector system. Protons and deuterons in irradiated NH_3 and ND_3 will be polarized at 18239;K using the 58239;T field of the CLAS12 solenoidal magnet. For optimum polarization, the field uniformity requirements are around 100 ppm over the volume of the 12 cm³ target sample. I will present field map results for the solenoid, and discuss methods to improve the uniformity utilizing thin superconducting shim coils integrated within the 18239;K refrigerator. I will also demonstrate that this method to adjust the 58239;T field also enables the simultaneous opposite polarization of two adjacent target cells.

Summary

Primary author: LAGERQUIST, Victoria (Old Dominion University, Jefferson Lab)

Presenter: LAGERQUIST, Victoria (Old Dominion University, Jefferson Lab)

Session Classification: Solid Polarized Targets

Track Classification: Solid Polarized Targets