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## 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  $\text{NH}_3$  and  $\text{ND}_3$  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 cm<sup>3</sup> 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

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**Session Classification:** Solid Polarized Targets

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