

Abstract Submitted  
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**Using a directional analog to the Hanle effect to Characterize fields in a magneto-optical trap**<sup>1</sup> JAROM JACKSON, DALLIN DURFEE, Brigham Young University — The Hanle effect describes a depolarization of scattered light due to the rotation of atoms in a magnetic field. We will discuss a directional analog to the Hanle effect, in which field-induced rotation changes the spatial emission pattern of the scattered light. We use this effect to measure the spatially dependent magnetic field of a magneto-optical trap (MOT) in situ. The method is well suited for this task, because little to no setup or additional equipment is needed beyond what is typically present in an experiment using a MOT, and the magnitude of the fields in a MOT are naturally in the most sensitive range of this method.

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