Abel inversion for study of multiple scattering in a Cs magneto-optical trap[1] K. RICHARD OVERSTREET, PATRICK ZABAWA, JONATHAN TALLANT, ARNE SCHWETTMANN, JEFF CRAWFORD, JAMES P. SHAFFER, University of Oklahoma — We present a study of multiple scattering within a Cs magneto- optical trap (MOT). We employed two Abel inversion algorithms to recover the density distribution of the MOT from fluorescent images. The method is non-destructive and provides accurate measurement of MOT density. We observe deviations of the density distribution from a Gaussian that are attributed to the multiple scattering of photons.

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