

Abstract Submitted  
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**Methods for Non-destructive Temperature Measurements in a Magneto-Optical Trap**<sup>1</sup> FRANK A. NARDUCCI, Naval Air Systems Command, DWIGHT DUNCAN, GRADY R. WHITE, AMPAC, Inc., JAMES LOUGH, JON P. DAVIS, Naval Air Systems Command — Certain practical applications for precision measurements by atom interferometers require knowledge of the input atom cloud's temperature from realization to realization. Recent work [1,2] has shown how to measure the temperature of atoms in a magneto-optical trap in a non-destructive, *in situ* manner. We discuss an alternate, simpler method for the nondestructive measurement of the temperature of an atom cloud and compare our method with earlier techniques.

[1] T. Brzozowski, M. Brzozowska, J. Zachorowski, M. Zawada, W. Gawlik, *PRA*, **71**, 013401 (2005).

[2] M. Brzozowska, T. Brzozowski, J. Zachorowski, W. Gawlik, *PRA*, **72**, 061401(R), (2005).

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