Abstract Submitted
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Photon Detection System for Collinear Laser Spectroscopy Experiments at NSCL[1] A. SCHNEIDER, K. MINAMISONO, P.F. MANTICA, A. KLOSE, B. JOHNSON, NSCL/Michigan State University — The BEam COoler and LAser spectroscopy (BECOLA) facility [1] has been implemented for collinear laser spectroscopy experiments [2] with thermalized rare isotope beams at NSCL/MSU. A photon detection system [3], which consists of an ellipsoidal reflector and a photomultiplier tube, was developed to efficiently collect and detect laser-induced fluorescence in the near UV/blue and near IR/red wavelength regions. The photon detection system's sensitivity has been optimized so that the system may be applicable to rare isotopes with low production rates. The results of test measurements with offline ion/atom beams as well as comparisons with simulations using FRED optical engineering software [4] will be discussed.

[1] https://groups.nscl.msu.edu/becola
[2] S.L. Kaufman, Optics Communications, 17 309, (1976).
[3] S. Vinnikova, M.S. Thesis, Michigan State University, (2011).
[4] Photon Engineering; http://www.photonengr.com/software.

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