Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

A versatile, continuous-wave laser system for collinear laser spectroscopy at NSCL[1] C. RYDER, National Superconducting Cyclotron Laboratory, Michigan State University, P. MANTICA, National Superconducting Cyclotron Laboratory, Michigan State University Dept. of Chemistry, K. MINAMISONO, National Superconducting Cyclotron Laboratory, Michigan State University Dept. of Physics and Astronomy, D. ROSSI, National Superconducting Cyclotron Laboratory, Michigan State University, A. KLOSE, National Superconducting Cyclotron Laboratory, Michigan State University Dept. of Chemistry, D. TARAZONA, R. STRUM, National Superconducting Cyclotron Laboratory, Michigan State University Dept. of Physics and Astronomy, M. HUGHES, Clemson University — A continuous-wave dye-laser system is now available for use at the BEam COoling and LAser Spectroscopy (BECOLA) facility. The new dye laser system will allow for laser probing of atomic nuclei within the visible wavelength range (550-750nm), complementing the present Ti:Sapphire solid-state laser system that is operable in the high-visible to near-infrared wavelengths (700-1000nm). A calibrated He-Ne laser will be used to stabilize the laser wavelength. A laser power controller (LPC) has been placed in the laser light path near the collinear beam line to reduce laser noise and regulate the laser power. Frequency-doubling is accessible for either the Ti:Sapphire- or dye-laser to reach laser wavelengths spanning from UV to NIR. The upgrades to the BECOLA laser system broadens the applicability of nuclear structure measurements via laser-induced fluorescence.

[1]This work supported in part by NSF Grants PHY-11-02511 (NSCL) and PHY-12-28489 (MRI).

Caleb Ryder
NSCL, Michigan State University

Date submitted: 28 Jun 2013 Electronic form version 1.4