

Abstract Submitted  
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**Probing the nature of the  $2^+$  excited state in  $^{72}\text{Ni}$  with lifetime measurements** KAROLINA KOLOS, University of Tennessee, DAVID MILLER, TRIUMF, ROBERT GRZYWACZ, University of Tennessee/ORNL, HIRONORI IWASAKI, NSCL/MSU, MOHAMMAD AL-SHUDIFAT, University of Tennessee, DANIEL BAZIN, NSCL/MSU, CAROL R. BINGHAM, University of Tennessee/ORNL, THOMAS BRAUNROTH, University of Cologne, GIORDANO CERIZZA, University of Tennessee, ALEXANDRA GADE, ANTOINE LEMASSON, SEAN N. LIDDICK, NSCL/MSU, MIGUEL MADURGA, University of Tennessee, CHRIS MORSE, NSCL/MSU, MOSTAFA M. RAJABALI, TRIUMF, FRANCESCO RECCHIA, NSCL/MSU, LEE L. RIEDINGER, University of Tennessee/ORNL, PHILLIP VOSS, Simon Fraser University, WILLIAM B. WALTERS, University of Maryland, DIRK WEISSHAAR, KENNETH WHITMORE, NSCL/MSU, KATHRIN WIMMER, Central Michigan University — We present the results of an experiment to measure the lifetimes of the  $2_1^+$  excited state in  $^{72}\text{Ni}$  populated in a proton knockout reaction at intermediate energies using the recoil distance method. This experiment was performed at the NSCL during GRETINA campaign and the array was used for  $\gamma$ -ray detection. Measured  $\gamma$ -ray spectra were directly compared with GEANT4 simulations [1] accounting for the geometry of the experiment. The new result does not indicate increased collectivity in nickel isotopes above  $N = 40$  and is found to be in agreement with the recent MCSM calculations [2]. [1] P. Adrich et al., Nucl. Instrum. and Meth. A598 (2009) 454. [2] Y. Tsunoda, T. Otsuka, N. Shimizu, M. Honma and Y. Utsuno, Journal of Physics: Conference Series 445 (2013) 012028.

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