

Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

Update on the structure of n-rich 52-56Ti¹ S. ZHU, Argonne National Laboratory, R.V.F. JANSSENS, M.P. CARPENTER, S. FREEMAN, University of Manchester, B. FORNAL, Niewodniczanski Institute of Nuclear Physics, A. DEACON, University of Manchester, B. KAY, J. KOZEMCZAK, Greenville College, A. LARABEE, T. LAURITSEN, Argonne National Laboratory, A. ROBINSON, D. SEWERYNIAK, J. SMITH, University of Manchester, D. STEPPENBECK, X. WANG², Argonne National Laboratory — Neutron-rich nuclei above ⁴⁸Ca are presently the subject of much theoretical and experimental focus because of the presence of a N=32 sub-shell gap [1]. The spectroscopy of these hard-to-reach nuclei has been carried out with a number of reactions including deep inelastic processes and fusion- evaporation utilizing extremely weak channels. An example of the latter is the use of the ⁹Be(⁴⁸Ca,2p) reaction with a $\sim 1 \mu\text{b}$ cross section to investigate ⁵⁵Ti. In this case, advantage is taken of the resolving power of the combination of the Argonne Fragment Mass Analyzer and the Gammasphere array. Recent experimental progress in the structure of the odd and even Ti isotopes will be presented and compared with shell model calculations carried out with recently developed effective interactions.

[1] R.V.F Janssens et al., Phys. Let. B 546, 55 (2002).

¹This work is supported by the U.S. Department of Energy, Office of Nuclear Physics, under contract No. No. W31-109-ENG-38.

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Date submitted: 30 Jun 2006

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