

Abstract Submitted
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Precision Test of the Isobaric Multiplet Mass Equation in the $A = 32$, $T = 2$ Quintet R. FERRER, A.A. KWIATKOWSKI, G. BOLLEN, C.M. CAMPBELL, C.M. FOLDEN III, D. LINCOLN, D.J. MORRISSEY, G.K. PANG, A. PRINKE, J. SAVORY, S. SCHWARZ, National Superconducting Cyclotron Laboratory, Michigan State University — Masses of the radionuclides $^{32,33}\text{Si}$ and ^{34}P and of the stable nuclide ^{32}S have been measured with the Low Energy Beam and Ion Trap (LEBIT) Penning trap mass spectrometer. Relative mass uncertainties of 3×10^{-8} and better have been achieved. The measured mass value of ^{32}Si differs from the literature value [1,2] by four standard deviations. The precise mass determination of ^{32}Si and ^{32}S have been employed to test the isobaric multiplet mass equation for the $A = 32$, $T = 2$ isospin quintet. The experimental results indicate a significant deviation from the quadratic form. This work has been supported by Michigan State University, the NSF under contract number PHY- 0606007, and the DOE under the contract DE-FG02-00ER41144. References: 1. G. Audi, A.H. Wapstra, and C. Thibault, Nucl. Phys. A729 (2003) 337 2. A. Paul, S. Röttger, A. Zimbal, and U. Keyser, Hyperfine Interact. 132 (2001) 189

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