

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Transient field g factor measurement on radioactive $^{100}\text{Pd}(2_1^+)$ via α transfer¹ NOEMIE BENCZER-KOLLER, Rutgers University, KARL-HEINZ SPEIDEL, Bonn University, GERFRIED KUMBARTZKI, GÜLHAN GÜRDAL, Rutgers, TAN AHN, ROBERT CASPERSON, RAPHAËL CHEVRIER, ANDREAS HEINZ, GABRIELE ILIE, DESIREE RADECK, Yale University, MALLORY SMITH, Yale, ELIZABETH WILLIAMS, Yale University — ^{100}Pd has four proton holes in the $g_{9/2}$ and four neutrons in the $d_{5/2}$ orbitals around the $N = Z = 50$ shell closures and is therefore a suitable candidate for studying single particle effects in the nuclear wave function. The α transfer from a carbon target to an energetic beam of ^{96}Ru close to the Coulomb barrier has been used to populate the 2_1^+ state in radioactive ^{100}Pd via the reaction $^{12}\text{C}(^{96}\text{Ru}, ^8\text{Be})^{100}\text{Pd}$. ^{96}Ru beams of 343 MeV were provided by the Yale WNSL accelerator. The two α particles from the breakup of ^8Be and the carbon ions which Coulomb excited the Ru projectiles were detected in a Si detector in coincidence with the γ rays recorded in four Ge Clover detectors. Angular correlations and precessions have been measured via the transient field technique. Preliminary data yield the first measurement of the g factors of the 2_1^+ state in ^{100}Pd and of the 4_1^+ state in ^{96}Ru .

¹The authors thank the NSF, the DOE and the DFG for their support.

Noemie Benczer Koller
Rutgers University

Date submitted: 20 Oct 2009

Electronic form version 1.4