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g-factor measurements using α-transfer reactions above the Coulomb barrier D.A. TORRES, N. BENCZER-KOLLER, G.J. KUMBARTZKI, G. GÜRDAL, Y.Y. SHARON, Rutgers University, K.-H. SPEIDEL, Bonn University, G. ILLIE, A. HEINZ, T. AHN, V. WERNER, D. RADECK, M. ELVERS, D. SAVRAN, P. GODDARD, V. ANAGNOSTATOU, A.W. Wright Nuclear Structure Laboratory, Yale University — Magnetic moments of short-lived nuclear states, of the order of picoseconds, have been measured during the last decade thanks to significant improvements of the experimental techniques, from the production and acceleration of stable and radioactive beams, to the realization of highly segmented, high resolution γ-detector arrays coupled with charged particle detectors. Projectile excitation in inverse kinematics, using carbon as a scatters, facilitates the transfer of one α particle to the projectile. This reaction near to the Coulomb barrier can lead to probe ions not available in stable beams. In this talk experimental results of g-factor measurements of the first 2^+ state of ^{92}Zr and ^{100}Pd will be presented (the latter has been measured for the first time). The states were populated using beams of ^{88}Sr (at 260 MeV) and ^{96}Ru (at 350 MeV), respectively, accelerated using the Tandem at the Wright Nuclear Structure Laboratory at Yale University. The experiments made use of α-transfer reactions in inverse kinematic, combined with the transient magnetic field. Results and experimental challenges for future experiments will be discussed.

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