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Relative magnetic moments in ^{106,108}Pd from the new g-plunger technique[1] G. ILIE, V. WERNER, J.R. TERRY, D. RADECK, T. AHN, L. BETTERMANN, R.J. CASPERSON, R. CHEVRIER, N. COOPER, A. HEINZ, E. HOLLAND, D. MCCARTHY, M.K. SMITH, E. WILLIAMS, WNSL, Yale Univ., C. BEAUSANG, T.C. BONNIWELL, B. PAUERSTEIN, Univ. Richmond — The aim of the present work was the proof-of-principle for the new g-plunger technique to measure the deorientation and the lifetime of a state after an inverse kinematics reaction. The deorientation effect, observed in nuclei recoiling from thin targets into vacuum, is due to the hyperfine interactions between the nuclear spin and the surrounding electron configurations. The attenuation of γ-ray angular distributions has been measured for the 2_1^+ states in ^{106}Pd and ^{108}Pd. ^{106,108}Pd beams with energies of 330 MeV and 336 MeV, respectively, were Coulomb excited into their 2_1^+ state on a ^{24}Mg target. Forward scattered Mg was detected, passing a Cu foil which served as a stopper for the beam. We measured the time-dependence of the attenuation as a function of distance, in parallel to measuring the lifetimes of the 2_1^+ states via RDDS method. This the attenuation is used to measure the g factor of the decaying states relative to each other. The results of this work will be presented.

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