

Abstract Submitted
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A g-factor measurement of the 4^+ state in ^{76}Ge G. GÜRDAL, N. BENCZER-KOLLER, G. KUMBARTZKI, Rutgers University, H. AI, R. CASPERSON, R.F. CASTEN, A. HEINZ, E.A. MCCUTCHAN, J. QIAN, V. WERNER, E. WILLIAMS, R. WINKLER, WNSL, Yale University — The $^{70-76}\text{Ge}$ isotopes are transitional nuclei with E_4^+/E_2^+ ratios varying from 2.07 to 2.51. The systematic studies of g factors of 2_1^+ and 4_1^+ excited states provide an understanding of the microscopic structure of these nuclei since the g factors are very sensitive to the proton and neutron contributions to the wave functions. The measured results can be compared to the predictions of either shell model calculations or collective vibrational excitations. The measured g factors of 2_1^+ in Ge nuclei, as well as in neighboring Zr and Se nuclei show reasonable agreement with Z/A , a signature of collective behavior. However, in this region the g factors of the 4_1^+ states are somewhat larger than Z/A , albeit with large error bars. In this work, the first measurement of the g factor of the excited 4_1^+ state of ^{76}Ge using the Transient Field (TF) technique will be presented. The 4_1^+ state of ^{76}Ge was populated by Coulomb excitation on a C target of a beam of ^{76}Ge (190-230 MeV) in inverse kinematics. Work supported by the U.S. National Science Foundation and U.S.D.O.E under grant DE-FG02-91ER-40609.

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