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Measurements of the g-factors of the 4⁺ states in ^{72,76}Ge isotopes G. GÜRDAL, G. KUMBARTZKI, N. BENCZER-KOLLER, Y.Y. SHARON, Rutgers University, Z. BERANT, WNSL, Yale University; Nuclear Research Center Negev, Israel, R. CASPERSON, A. HEINZ, G. HENNING, J. QIAN, A. SCHMIDT, J.R. TERRY, W. WERNER, E. WILLIAMS, R. WINKLER, WNSL, Yale University — In this work, the g factors of the excited 4_1^+ states of 72,76 Ge were measured, using the Transient Field (TF) technique, and the results will be presented. The 4⁺₁ states of ^{72,76}Ge were populated by using projectile excitation. The ^{72,76}Ge beams were accelerated to 200 MeV at the Yale Tandem accelerator and were Coulomb excited as they interacted with a Mg target. The systematic studies of the g factors of 2_1^+ and 4_1^+ nuclear states provide an understanding of the microscopic structure of the wave functions of these low-lying excited states, since the g factors are very sensitive to the proton and neutron configurations in the wave functions. The measured g factor results can be compared to the predictions of either large-scale shell model calculations or of collective models. The measured g factors of the 2^+_1 states in the Ge isotopes show reasonable agreement with the Z/A values that are characteristic of collective behavior. The lack of data for the g factors of the corresponding 4^+_1 states motivated the present investigations. 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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