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The g factor of the 2_1^+ state in ^{126}Sn G.J. KUMBARTZKI, N. BENCZER-KOLLER, D.A. TORRES, Rutgers University, G. GÜRDAL, Argonne National Lab., C.J. GROSS, A. GALINDO-URIBARRI, Oak Ridge National Lab., C. BINGHAM, N. STONE, University of Tennessee, A.E. STUCHBERRY, Australian National University, K.-H. SPEIDEL, University Bonn — In the quest to develop the necessary tools and gather experience in using the transient field technique to measure g factors of low-lying short-lived nuclear states in radioactive beam experiments, the ^{126}Sn ($t_{1/2} = 2.3{\cdot}10^5$ years) will be measured at the HRIBF, ORNL. Each radioactive beam experiment presents its own set of problems and challenges due to the radioactive background from the beam and beam contaminants and their life times, and the low beam intensity. This experiment is a test with a very long lived, nearly stable beam. The target is designed to stop the reaction products in the backing of the target but to allow the bulk of the beam to pass through and stop in a foil placed between the target and the particle detector. This foil can be changed in the course of the experiment, should it become too radioactive. The experiment is scheduled to run in July 2011. Success or failure will provide a wealth of information on working in different radioactive environments and will extend the spectroscopic information on g factors of 2_1^+ states in Sn isotopes. The transient field measurement will provide the sign of the g factor.

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