

Abstract Submitted
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Digital Data Acquisition System for Gammasphere M.P. CARPENTER, M. ALCORTA, J.T. ANDERSON, C.R. HOFMAN, R.V.F. JANSSENS, T.L. KHOO, A. KREPS, T. LAURITSEN, C.J. LISTER, D. SEWERYNIAK, P. WILT, S. ZHU, Argonne National Laboratory, M. CROMAZ, C. LIONBERGER, I.Y. LEE, Lawrence Berkeley National Laboratory — A new digital-based data acquisition system for Gammasphere is under development. This system leverages the electronics designed for the GRETINA collaboration. At the center of this development are the GRETINA 10-channel digitizer modules which digitize the Ge preamp signals at a 100MHz rate [1]. The new DAQ will increase event throughput significantly over the existing system while addressing multiple repair and maintenance issues. New hardware and firmware to integrate the GRETINA electronics with Gammasphere has been developed allowing for a staged changeover so that the experimental program will not be adversely affected. In the first phase of the project, both the current VXI based analog system and the digital DAQ will run in parallel and share a common trigger and clock. The current status of the project and results from first in-beams tests of the phase I system will be presented. This research is supported by the DOE Office of Nuclear Physics under Contract No. DE-AC02-06CH11357.

[1] J.T. Anderson *et al.*, IEEE Transactions on Nuclear Science, vol. 56, issue 1, pp. 258-265.

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