

Abstract Submitted
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Digital Data Acquisition System for Gammasphere C.R. HOFFMAN, J.T. ANDERSON, M.P. CARPENTER, T.A. HAYDEN, R.V.F. JANSSENS, 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. A successful field test of a small number of channels running parasitically to the analog system has demonstrated the anticipated increase in event rate and shown that the energy resolution will still remain satisfactory at these higher rates. The current status of project 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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