

Abstract Submitted
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A Data Acquisition System for ν -SNS Development S.V. PAULASKAS, R.L. KOZUB, Tennessee Tech. Univ., J.C. BLACKMON, D.W. BARDAYAN, Q. ZENG, Oak Ridge National Lab., Y.V. EFREMENKO, Univ. of Tennessee-Knoxville, K. SCHOLBERG, A. CROWELL, Duke Univ. — The ν -SNS project at the Spallation Neutron Source aims to study neutrino-nucleus interactions important for understanding nuclear structure and astrophysics. Understanding the neutron background produced by the 1 GeV proton beam of the SNS is crucial to designing the shielding and detectors for ν - SNS. To this end a facility is being constructed to study the neutron backgrounds at the SNS. In order to process data from scintillation detectors a LabVIEW¹ program was written. This program communicates with CAMAC based ADC modules via a GPIB crate controller and a USB interface. Three of the ADCs receive gates to store information from different time intervals for neutron-gamma discrimination. The fourth ADC stores TAC signals with neutron TOF information. The LabVIEW¹ program creates spectra that can be used to identify neutrons and gamma rays. Measurements with neutron and gamma sources were performed to study the effectiveness of different techniques of neutron-gamma discrimination.

¹LabVIEW is a trademark of National Instruments Corporation.

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