

Abstract Submitted
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Digital acquisition system for superheavy experiments¹ DAVID MILLER, University of Tennessee, ROBERT GRZYWACZ, University of Tennessee and Oak Ridge National Laboratory, KRZYSZTOF MIERNIK, KRZYSZTOF RYKACZEWSKI, Oak Ridge National Laboratory, DIETER ACKERMANN, SOPHIA HEINZ, SIGURD HOFMANN, FRITZ HEßBERGER, GSI — The half-lives in the region of $Z \sim 120$ are expected to be in the range of several microseconds or shorter. Access to such short decays poses a challenge for traditional analog acquisition systems. A new digital acquisition system has been developed using Pixie digitizers to search for this fast radioactivity. The system was deployed at the decay station following the SHIP separator in parallel with its analog system to detect fast alpha decays following the implantation of fusion residues produced in the $^{248}\text{Cm} + ^{54}\text{Cr}$ reaction. Its capabilities to detect sub-microsecond radioactivity and future possibilities will be presented.

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