

Abstract Submitted  
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**$\beta$  decay of  $^{51,52}\text{Ar}$**  P.F. MANTICA<sup>1</sup>, H.L. CRAWFORD, J. PEREIRA, J.S. PINTER, J.B. STOKER, NSCL/MSU, R. BRODA, B. FORNAL, IFJ PAN/Krakow, R.V.F. JANSSENS, X. WANG, S. ZHU, ANL, N. HOTELING, W.B. WALTERS, Maryland, C.R. HOFFMAN, S.L. TABOR, FSU — The neutron-rich  $^{51,52}\text{Ar}$  isotopes were produced by fragmentation of a  $^{76}\text{Ge}$  primary beam of energy 130 MeV/A at NSCL. The A1900 fragment separator, with a wedge degraded and plastic scintillator placed at its intermediate image, was used to select the Ar isotopes of interest from other reaction products. The full 5% momentum acceptance of the A1900 was used, and other neutron-rich isotopes of K, Ca, Sc, and Ti were available for study as well. Seven implantations unambiguously identified as  $^{52}\text{Ar}$  based on energy loss, total energy, time-of-flight, and magnetic rigidity provided first evidence for the existence of this nuclide. We will report the  $\beta$ -decay half-lives of  $^{51,52}\text{Ar}$  deduced from event-by-event time correlations between implantations and subsequent  $\beta$  decays measured with the NSCL Beta Counting System.

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