Abstract Submitted
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β decay of ^{69,70,71}Kr A.M. ROGERS, C.J. LISTER, J.A. CLARK, S.M. FISCHER, S. GROS, E.A. MCCUTCHAN, G. SAVARD, D. SEWERYNIAK, ANL, J. GIOVINAZZO, B. BLANK, G. CANCHEL, CENBG/CNRS/IN2P3, G. DE FRANCE, S. GREVY, F. DE OLIVEIRA SANTOS, I. STEFAN, J.-C. THOMAS, GANIL — Proton-rich nuclei beyond the $N = Z$ line play a key role in our understanding of astrophysics, weak-interaction physics, and nuclear structure. The decay of ^{69}Kr is of particular interest as it can be used to populate states in the proton unbound nucleus ^{69}Br. During the *rp*-process, 2p-capture reactions through ^{69}Br can bypass the "waiting-point" nucleus ^{68}Se. This depends sensitively on the proton-capture Q-value. An implantation-decay experiment was recently conducted at GANIL which utilized β-p and β-γ correlations to study physics related to the β decay of ^{69,70,71}Kr. Isotopes of Kr were implanted into a DSSD, also used to detect decay protons, located at the end of the LISE spectrometer. Coincident γ-rays from the implant decays were detected in the surrounding EXOGAM clovers. We were able to identify $\sim$ 200 ^{69}Kr implantation-decay events, allowing us to extract the energy and constrain the angular momentum of the analog state in ^{69}Br as well as improve the prediction for the ^{69}Kr mass. An overview of the results from our analysis of ^{69}Kr β decay will be presented. This work is supported by the U.S. DOE Office of Nuclear Physics, Contract No. DE-AC02-06CH11357.

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