

Abstract Submitted
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Lifetimes Within the ^{73}Se Nucleus¹ DEXTER ALLEN, R. HARING-KAYE, K. JONES, K. LE, Ohio Wesleyan University, J. DRING, Bundesamt für Strahlenschutz (Germany), B. ABROMEIT, R. DUNGAN, R. LUBNA, S. TABOR, P.-L. TAI, VANDANA TRIPATHI, J. VONMOSS, Florida State University, S. MORROW, Houghton College — There is considerable uncertainty in the literature regarding the cascade intensities of the decay sequences in ^{73}Se . In particular, the degree to which each state is populated by side feeding can vary considerably. The goal of this work was to measure as many lifetimes as possible in ^{73}Se by gating from above the transition of interest in order to eliminate the effects of uncertainties in side feeding intensities. This was made possible by the excellent γ -ray counting statistics for ^{73}Se provided by the $^{14}\text{C}(^{62}\text{Ni}, 3n)$ reaction performed at Florida State University using a beam energy of 50 MeV and with a Compton-suppressed Ge detector array consisting of 3 Clover detectors and 7 single-crystal detectors. The Doppler-shift attenuation method was used to measure all lifetimes. Seven lifetimes were measured, four within the strongest positive-parity band and three within the favored negative-parity band. From these lifetimes the quadrupole deformation parameter β_2 could be inferred and compared with those predicted for these states as a function of spin. In general, the experimental trends were not reproduced in the calculations.

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