

Abstract Submitted
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Evolution of Collective Structure in Odd-Odd ^{70}As ¹ J.K. BRUCKMAN, Monmouth College, R.A. KAYE, S.R. ARORA, N.R. BAKER, Ohio Wesleyan University, S.L. TABOR, T.A. HINNERS, C.R. HOFFMAN, S. LEE, Florida State University, J. DOERING, Bundesamt fuer Strahlenschutz, Germany — Excited states in ^{70}As were produced via the $^{23}\text{Na}(^{54}\text{Fe}, \alpha 2pn)^{77}\text{Rb}$ reaction at 80MeV. Gamma-ray transitions between the excited states were collected in coincidence using a high-resolution array of 10 Ge detectors. From the coincidence relationships, a candidate for the missing odd-spin negative-parity sequence was found, with spins and parities assigned tentatively using systematic arguments. All other high-spin level sequences found previously were confirmed. The kinematic moments of inertia for the new band and those observed previously, calculated within the context of the cranked-shell model, show that ^{70}As is likely dominated by collective behavior at high spin, making it more similar in this regard to ^{72}As than ^{68}As . Collectivity and deformation also seem to increase with neutron number in the light proton-rich arsenic isotopes.

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Jonathan Bruckman
Monmouth College

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