Abstract Submitted
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Structural changes in ^{78}Ge[1] ANNE M. FORNEY, W.B. WALTERS, UMD-CP, J. SETHI, C.J. CHIARA[2], A.D. AYANGEAKAA, J. HARKER, UMD/ANL, R.V.F. JANSSENS, S. ZHU, M.P. CARPENTER, M. ALCORTA[3], G. GÜRDAL, C.R. HOFFMAN, B.P. KAY, F.G. KONDEV, T. LAURITSEN, C.J. LISTER[4], E.A. MCCUTCHAN[5], A.M. ROGERS[4], D. SEWERYNIAK, ANL — The nuclear structure of Ge isotopes when approaching the N=50 shell closure was investigated at the ATLAS facility at Argonne National Laboratory using the GAMMASPHERE detector array following deep-inelastic reactions. The structure of ^{78}Ge appears to differ significantly from that observed in the stable ^{72,74,76}Ge isotopes. In particular, a sequence of states linked by dipole transitions has been observed. It shows some properties suggestive of a gamma vibration, like in the lighter Ge isotopes, but the absence of quadrupole cross-over transitions is notable. Possible interpretations of this structure will be discussed. In addition, new information on the ^{80}Ge nucleus will be presented, including clarification of spin assignments owing to the recently identified presence of two β-decaying isomers from ^{80}Ga[6].

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[2]U.S. Army Research Laboratory, Adelphi, Maryland 20783, USA
[3]TRIUMF, Vancouver, British Columbia V6T2A3, Canada
[4]University of Massachusetts Lowell, Lowell, Massachusetts 01854, USA
[5]Brookhaven National Laboratory, Upton, New York 11973, USA
[6]D. Verney *et al., Phys. Rev C* ***87****, 054307 (2013).*

Anne Forney
UMD-CP

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