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Nature of triaxial deformation in ^{76}Ge: A model-independent analysis[1] A. D. AYANGEAKAA, USNA, R. V. F. JANSSENS, DAVID LITTLE, UNC/TUNL, D. J. HARTLEY, USNA, ANL TEAM, UMD TEAM, LLNL TEAM, MSU/NSCL TEAM, LBNL TEAM — The low-lying structure of ^{76}Ge has become a subject of intense scrutiny ever since it was first suggested as a possible example of rigid triaxiality at low spin [1]. For decades, the experimental observation of such rigid structures has remained elusive and indeed, there has been a longstanding issue associated with whether axially asymmetric nuclei retain rigid-triaxial deformation in their ground-state configuration. In this study, an extensive, model-independent analysis of the nature of triaxial deformation in ^{76}Ge has been performed following a high-statistics Coulomb excitation measurement with GRETINA and CHICO2. Shape parameters deduced on the basis of a rotational-invariant sum-rule analysis provided considerable insight into the underlying collectivity of the ground-state and γ bands. Compelling evidence for low-spin, rigid-triaxial deformation in ^{76}Ge based on the analysis of the statistical variance of the quadrupole asymmetry deduced from the measured $E2$ matrix elements will be presented. The relevance of these results for calculations aimed at providing, with suitable accuracy, the nuclear matrix elements relevant to neutrinoless double-beta decay will also be highlighted. [1] Y. Toh *et al.*, Phys. Rev. C87, 041304 (2013).

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