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The Role of Triaxiality in Shape-Coexistence in Light Krypton Isotopes S.M. FISCHER, Physics Department DePaul University and Argonne National Laboratory, C.J. (KIM) LISTER, Physics Division Argonne National Laboratory — Shape co-existence in lead[1] and krypton[2–4] isotopes has become a cutting-edge topic in understanding the structure of heavier nuclei. Prediction of the relative binding energies of different shapes, and understanding the mixing between configurations presents a discriminating challenge to nuclear theory. In ^{72,74,76}Kr the occurrence of two well bound shapes has been demonstrated through the observation of low-lying $J^\pi = 0^+$ isomers and through radioactive beam Coulomb excitation. Roughly speaking, the shapes correspond to oblate-like and prolate-like configurations. However, the exact shapes, and the role of triaxiality has yet to be fully explored. We present new results from "in-beam" heavy-ion spectroscopy on ^{74}Kr which shows that the population of the isomer is mainly through a gamma vibrational band and that considerable mixing is involved between the states built on the isomer and the gamma band. This research was supported by the DOE Office of Nuclear Physics under contract DE-AC02-06CH11357.

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