

Abstract Submitted
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A New isomeric State in ^{116}Ag J.C. BATCHELDER, H.K. CARTER, E.H. SPEJEWSKI, UNIRIB/Oak Ridge Associated Universities, A. PIECHACZEK, E.F. ZGANJAR, Louisiana State University, J.C. BILHEUX, K.P. RYKACZEWSKI, D.W. STRACENER, Oak Ridge National Laboratory, W.D. KULP, J.L. WOOD, Georgia Institute of Technology, C.R. BINGHAM, R. GRZYWACZ, Y. LAROCHELLE, M.N. TANTAWY, University of Tennessee, D.J. HARTLEY, U.S. Naval Academy, J.A. WINGER, Mississippi State University, D.J. FONG, J.H. HAMILTON, J.K. HWANG, W. KROLAS, A.V. RAMAYYA, Vanderbilt University, P.E. GARRETT, Lawrence Livermore National Laboratory — We have discovered a new isomer in ^{116}Ag with a half-life of 20(1) seconds, through the use of conversion electron, beta and gamma spectroscopy of on-line mass separated radioactivities at the Holifield Radioactive Ion Beam Facility at ORNL. The observed electron peaks at 22.5, 44.42, and 47.33 keV were interpreted as the K, L, and M conversion electron lines resulting from a 47.9 keV E3 transition associated with the decay of a second isomeric level in ^{116}Ag . A new level structure of ^{116}Ag is proposed, with the levels identified as the 0^- ground-state and isomeric levels at 47.9 and 128.8 keV assigned spin/parities of 3^+ and 6^- respectively. Nilsson configurations proposed for these isomeric levels correspond to an oblate deformation of ^{116}Ag .

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