

Abstract Submitted
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High-spin states in ^{83}Se N. FOTIADES, LANL, A.F. LISETSKIY, NSCL/MSU, J.A. CIZEWSKI, Rutgers, R. KRÜCKEN, T.U.München, R.M. CLARK, P. FALLON, I.Y. LEE, A.O. MACCHIAVELLI, LBNL, J.A. BECKER, W. YOUNES, LLNL — High-spin states in ^{83}Se have been studied following the fission of the ^{226}Th compound nucleus formed in a fusion-evaporation reaction (^{18}O at 91 MeV on ^{208}Pb). The Gammasphere array was used to detect γ -ray coincidences. This is the first observation of high-spin states above the $9/2^+$ ground state of this nucleus and extends the level scheme up to spin ($17/2^+$). The coupling of the neutron hole in the $g_{9/2}$ orbital, which forms the ground state of ^{83}Se , to the 2^+ and 4^+ yrast states in the ^{84}Se core can account for the first four high-spin states in ^{83}Se . There is generally good agreement between the experimentally observed high-spin states and predictions of shell-model calculations. This work has been supported in part by the U.S. Department of Energy under Contracts No. W-7405-ENG-36 (LANL), AC03-76SF00098 (LBNL) and W-7405-ENG-48 (LLNL) and by the National Science Foundation (Rutgers).

Walid Younes
LLNL

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