High-spin states in \(^{135}\text{Cs}\) N. FOTIADES, LANL, J.A. CIZEWSKI, Rutgers Univ., 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 \(^{135}\text{Cs}\) have been studied following the fission of the \(^{226}\text{Th}\) compound nucleus formed in a fusion-evaporation reaction (\(^{18}\text{O}\) at 91 MeV on \(^{208}\text{Pb}\)). The Gammasphere array was used to detect \(\gamma\)-ray coincidences. A sequence of transitions was observed in coincidence with the previously known 786.8-keV, \(11/2^+ \rightarrow 7/2^+\) transition from the 786.8-keV level of \(^{135}\text{Cs}\) extending the level scheme up to spin 23/2 and \(\sim 3.3\) MeV excitation energy. The assignment of this sequence to \(^{135}\text{Cs}\) is also supported by coincidences with known transitions in the complementary fragments. The observed experimental states are compared with states in the neighboring \(^{137}\text{Cs}\) nucleus, as well as with the states in the \(Z=54\) core of \(^{134}\text{Xe}\). The coupling of the odd proton occupying the \(g_{7/2}\) orbital to the yrast states in \(^{134}\text{Xe}\) can account for the first excited states of \(^{135}\text{Cs}\). This work was supported by the U.S. Department of Energy under Contracts No. DE-AC52-06NA25396 (LANL), DE-AC52-07NA27344 (LLNL) and AC03-76SF00098 (LBNL) and by the National Science Foundation (Rutgers).