

Abstract Submitted
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In-Beam Spectroscopy of ^{215}Ac R. WINKLER, A. HEINZ, J. QIAN, J.R. TERRY, R.J. CASPERSON, R.F. CASTEN, A. SCHMIDT, V. WERNER, E. WILLIAMS, Yale University, Z. BERANT, Yale University, Nuclear Research Center Negev, M. BUNCE, Yale University, University of Surrey, G. HENNING, Yale University, ENS de Cachan — Knowledge of the evolution of proton single particle energies beyond the $Z=82$ shell closure is a vital ingredient in predictions of the stability of superheavy elements. In contrast to relativistic mean-field model predictions, which are used to describe shell stabilization effects, recent experiments have shown no indication of a subshell closure at $Z=92$. In-beam gamma spectroscopy of ^{215}Ac has recently been carried out to study the evolution of structure of the $N=126$ isotones. Previous study of this isotope has been limited to delayed-gamma and alpha-gamma techniques. The powerful technique of recoil-decay-tagging using the gas-filled separator SASSYER and a newly commissioned focal plane detection system was implemented to extract decays associated with the weak fusion channel production of ^{215}Ac . Experimental results will be presented and interpretation will be discussed in the framework of the shell model. This work is supported by U.S. DOE Grant No. DE-FG02-91ER-40609.

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