

Abstract Submitted  
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**Level Structure Above the  $T_{1/2} = 2.0 \times 10^5$  yr Isomer in  $^{186}\text{Re}$**  D. A. MATTERS, J. W. MCCLORY, Air Force Institute of Technology, F. G. KONDEV, M. P. CARPENTER, Argonne National Laboratory, J. J. CARROLL, Army Research Laboratory, C. J. CHIARA, Oak Ridge Associated Universities / Army Research Laboratory, G. J. LANE, T. KIBÉDI, Australian National University, E. IDEGUCHI, Y. FANG, RCNP, Osaka University, H. WATANABE, Beihang University, AND THE E435 CAGRA COLLABORATION — The level structure above the  $K^\pi = (8^+)$ , 149-keV isomer in  $^{186}\text{Re}$  is largely undeveloped. The isomer could play a role in the  $s$ -process nucleosynthesis of  $^{187}\text{Os}$  and  $^{187}\text{Re}$  and affect the accuracy of the Re-Os cosmochronometer. An experiment was conducted at the Research Center for Nuclear Physics (RCNP) at Osaka University, Japan, using the Clover Array Gamma-ray spectrometer at RCNP/RIBF for Advanced research (CAGRA) to measure  $\gamma$ -ray coincidences from  $(d, 2n)$  reactions on an enriched  $^{186}\text{W}$  target. The  $\gamma$ - $\gamma$  coincidence data obtained from the CAGRA array were analyzed along with data from a similar experiment performed in 2006 at the Australian National University. A preliminary analysis of the data reveals several new levels and transitions feeding the  $^{186m}\text{Re}$  isomer.

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