

Abstract Submitted
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New determination of the Ba-Mo yield matrix for ^{252}Cf A. H. THIBEAULT, E. H. WANG, C. J. ZACHARY, J. H. HAMILTON, A. R. RAMAYYA, Vanderbilt University, Y. X. LUO, J. O. RASMUSSEN, Lawrence Berkeley National Laboratory, G. M. TER-AKOPIAN, YU. TS. OGANESSIAN, Joint Institute for Nuclear Research, S. J. ZHU, Tsinghua University — Using quadruple-coincidence events of prompt fission gamma rays from 2000 Gammasphere data on spontaneous fission of ^{252}Cf , we made a careful analysis of the yield matrix of coincident pairs of barium ($Z=56$) and molybdenum ($Z=42$) fission fragments. The accuracy of previously determined yield matrices is improved upon with the use of higher accuracy quadruple-coincidences, the increased statistics of the most recent Gammasphere data, and improved level schemes for barium and molybdenum isotopes [1-3]. The previously proposed extra-hot-fission mode (up to ten neutrons evaporated) has been confirmed in our reanalysis. Our results are well in agreement with the results from the 1995 Gammasphere data analysis of Ba-Mo yields [4]. [1] Data extracted using the NNDC On-Line Data Service from the ENSDF database, file revised as of June 24, 2016. M. R. Bhat, Evaluated Nuclear Structure Data File (ENSDF), Nuclear Data for Science and Technology, page 817, edited by S. M. Qaim (SpringerVerlag, Berlin, Germany, 1992). [2] Experimental Unevaluated Nuclear Data List, <http://www.nndc.bnl.gov/xundl>. [3] Private communication from Vanderbilt University [4] S.-C. Wu *et al.*, Phys. Rev. C **62**, 041601(R) (2000).

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