

Abstract Submitted  
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**New energy levels in  $^{107}\text{Mo}$** <sup>1</sup> J.L. MARCELLINO, Union University, E.H. WANG, C.J. ZACHARY, J.H. HAMILTON, A.V. RAMAYYA, Y.X. LUO, Vanderbilt University, J.O. RASMUSSEN, LBNL, S.J. ZHU, Tsinghua University, VANDERBILT COLLABORATION — New energy levels and transitions in  $^{107}\text{Mo}$  have been established through the analysis of  $\gamma$ - $\gamma$ - $\gamma$  and  $\gamma$ - $\gamma$ - $\gamma$ - $\gamma$  coincidence data from the spontaneous fission of  $^{252}\text{Cf}$  taken with Gammasphere. Twenty-five new transitions have been placed into eleven levels. Spins and parities are assigned tentatively by comparing the levels with  $^{106,105}\text{Mo}$ . Based on the energy level spacing, a one-phonon  $\gamma$  vibrational band has been proposed similar to the ones observed in  $^{106,105}\text{Mo}$ .

<sup>1</sup>This work was performed while J.L. Marcellino was a Research Experience for Undergraduates participant at Vanderbilt University

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