

Abstract Submitted  
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**Half-life measurements of several states in  $^{95,97}\text{Sr}$ ,  $^{97,100,104}\text{Zr}$ ,  $^{106}\text{Mo}$  and  $^{148,150}\text{Ce}$**  J.K. HWANG, A.V. RAMAYYA, J.H. HAMILTON, Vanderbilt Univ., Y.X. LUO, Vanderbilt Univ./LBNL, A.V. DANIEL, G.M. TERAKOPIAN, JINR, J.D. COLE, INEL, S.J. ZHU, Tsinghua Univ. — Half-lives ( $T_{1/2}$ ) of several states in  $^{95,97}\text{Sr}$ ,  $^{97,100,104}\text{Zr}$ ,  $^{106}\text{Mo}$  and  $^{148,150}\text{Ce}$  which decay by delayed  $\gamma$  transitions, were determined from time-gated triple  $\gamma$  coincidence method. Transition energy dependent effects such as time-walks, time-jitters, amplitude-walks and possible timing fluctuation of Ge detectors that contribute to the width of time window are taken into consideration. It is shown that the normalized triple  $\gamma$  coincidence counts (the inverse of N1) of two prompt cascades with the similar transition energies are similar. Also, it is observed that the real triple  $\gamma$  coincidence counts in the prompt cascades change systematically along with the change of the coincidence time-window and three transition energies. The half-lives of the states in the delayed cascades are determined by using the prompt cascades with the similar transition energies as delayed cascades. The half-life of  $2^+$  state in  $^{104}\text{Zr}$  is measured to be 1.9(2) nsec. The obtained  $B(E2;0^+ \rightarrow 2^+)(e^2b^2)$  value and quadrupole deformation ( $\beta_2$ ) are 2.0(2) ( $e^2b^2$ ) and 0.47(5). It is reported that, except  $^{102}\text{Sr}$ ,  $^{104}\text{Zr}(\beta_2=0.47(5))$  has the most deformed  $2^+$  state among medium and heavy even-even nuclei.

Jae-Kwang Hwang  
Vanderbilt University

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