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Excited state lifetimes for A=109 nuclei via electronic timing with LaBr3(Ce) detectors[1] M. K. SMITH, A. APRAHAMIAN, University of Notre Dame, H. MACH, Division of Nuclear Physics, National Centre for Nuclear Research, Warsaw, B. BUCHER, Lawrence Livermore National Laboratory, L. M. FRAILE, B. OLAIZOLA, Universidad Complutense, Madrid — The neutron-rich region near A=100 exhibits markedly different behaviours. The Mo, Zr nuclei show rapid onset of deformation, while the Pd, and Ru isotopes show a slower transition from spherical to gamma-soft and triaxial. Much of the evidence for this is based on level energies, particularly away from stability. Lifetimes of excited states provide one of the best tools to understand nuclear structure, but this information is scarce for the shorter lived neutron rich nuclei. We have measured level lifetimes of the A=109 isobars produced from the fission of natural uranium using the Advanced Time-Delay Technique. This technique exploits the fast timing response of LaBr3(Ce) detectors in coincidence with Ge detectors to measure level lifetimes. Details of this technique will be presented along with new results.

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