

Abstract Submitted
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The direct measurement of the lifetime of the heavy Λ hypernuclei
XIYU QIU, Lanzhou University, E02017 COLLABORATION — The experiment E02-017 for direct measurement of the lifetime of heavy Λ hypernuclei was carried out at Jefferson Lab Hall C in 2009. Fe, Cu, Ag, Au, Bi and U were employed as the target materials. The delayed fission from heavy hypernuclei produced by photon-nuclei reaction has been measured in this experiment. The only and recent COSY-13 result on the lifetime of heavy hypernuclei in the A range of 180-230 claimed to have the best accuracy but appeared quite controversial to the conclusion obtained from the studies of light hypernuclei. This work will provide observable lifetime in the high A range as an independent measurement to help further understanding on this issue. We have extracted the timing spectrum, the fitting strategy is under investigation. The data analysis status will be presented and the preliminary result is expected in the near future which will either confirm or challenge the COSY-13 result, either way has significant impact in helping to fully understand the $\Lambda N \rightarrow NN$ weak interaction and non-mesonic decay.

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