

Fast-Timing Measurements in $^{99,101,103}\text{Ru}$

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Half-lives of excited states in $^{99,101,103}\text{Ru}$ isotopes were measured. The states of interest were populated via $(\alpha, n\gamma)$ fusion-evaporation reactions with a beam of α -particles at 14–15 MeV. The half-lives were measured with the RoSphere detector array, comprising $\text{LaBr}_3:\text{Ce}$ and HPGe detectors. Delayed coincidence technique was applied.

References

- [1] N. Mărginean, D.L. Balabanski, D. Bucurescu, S. Lalkovski, L. Atanasova, G. Căta-Danil, I. Căta-Danil, J.M. Daugas, D. Deleanu, P. Detistov, G. Deyanova, D. Filipescu, G. Georgiev, D. Ghiță, K.A. Gladnishki, R. Lozeva, T. Glodariu, M. Ivașcu, S. Kisiov, C. Mihai, R. Mărginean, A. Negret, S. Pascu, D. Radulov, T. Sava, L. Stroe, G. Suliman, and N.V. Zamfir, *In-beam Measurements of Sub-nanosecond Nuclear Lifetimes with a Mixed Array of HPGe and $\text{LaBr}_3:\text{Ce}$ Detectors*, European Physical Journal A **46**, 329–336 (2010).
- [2] S. Kisiov, S. Lalkovski, N. Mărginean, D. Bucurescu, L. Atanasova, D. L. Balabanski, Gh. Căta-Danil, I. Căta-Danil, J.-M. Daugas, D. Deleanu, P. Detistov, D. Filipescu, G. Georgiev, D. Ghiță, T. Glodariu, J. Jolie, D.S. Judson, R. Lozeva, R. Mărginean, C. Mihai, A. Negret, S. Pascu, D. Radulov, J.-M. Régis, M. Rudigier, T. Sava, L. Stroe, G. Suliman, N.V. Zamfir, K.O. Zell and M. Zhekova, *In-beam Fast-timing Measurements in $^{103,105,107}\text{Cd}$* , Physical Review C **84**, 014324 (2011).
- [3] S. Kisiov, S. Lalkovski, N. Mărginean, D. Bucurescu, L. Atanasova, D. Balabanski, Gh. Căta-Danil, I. Căta-Danil, D. Deleanu, P. Detistov, D. Filipescu, D. Ghiță, T. Glodariu, R. Mărginean, C. Mihai, A. Negret, S. Pascu, T. Sava, L. Stroe, G. Suliman, N.V. Zamfir and M. Zhekova, *Fast-timing Measurements in $^{95,96}\text{Mo}$* , J. Phys.: Conf. Ser. **366** 012027 doi:10.1088/1742-6596/366/1/012027.

- [4] D. Ivanova, S. Lalkovski, S. Kishev, N. Mărginean, D. Balabanski, D. Bucurescu, R. B. Cakirli, M. P. Carpenter, R. Casten, Gh. Căta-Danil, I. Căta-Danil, D. Deleanu, D. Filipescu, J. Gheorghe, D. Ghiță, T. Glodariu, F. G. Kondev, R. Mărginean, C. Mihai, A. Negret, S. Pascu, T. Sava, E. Stefanova, L. Stroe, G. Suliman, R. Suvaila, and N. V. Zamfir, *Fast-timing Measurements in $^{103,105}\text{Pd}$* , in preparation.