

Lifetime measurements in ^{107}Ag

G.Y. Stoev¹, S. Lalkovski¹, D. Ivanova^{2,3}, L. Atanasova⁴, N.L. Petrov¹, S. Kisiov⁵, C. Mihai⁶, R. Lica⁶, S. Pascu⁶, A. Turturica⁶, G. Turturica⁶, R. Borcea⁶, C. Costache⁶, I. Dinescu⁶, S. Toma⁶, A. Gandhi⁶, H. Singh⁶, M. Boromiza⁶

¹Faculty of Physics, Sofia University "St. Kl.Ohridski", 5 James Bourchier blvd., Sofia, 1164, Bulgaria

²Military Medical Academy, 3 St. Georgi Sofijski str., Sofia, 1696, Bulgaria

³University Hospital "Saint Ekaterina", Sofia, 1431, Bulgari

⁴Department of Medical Physics and Biophysics, Medical University – Sofia, 2 Zdrave str, Sofia, 1431, Bulgaria

⁵Lawrence Livermore National Laboratory, Livermore, 94550, California, USA

⁶Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, 30, Reactorului Street, Magurele, 077125, Ilfov, Romania

Abstract

The $j - 1$ anomaly is associated with the atypical ordering of the $7/2^+$ and $9/2^+$ states, arising from the $\pi g_{9/2}^{-3}$ multiplet. This fine structural feature is well observed in the medium mass odd-A Ag nuclei, starting with ^{103}Ag . Until recently, the only known lifetime of the $\pi g_{9/2}^{-3}$ multiplet was measured in ^{101}Ag . The present work is part of a comprehensive and systematic study of the structure of the silver isotopes where the $j - 1$ anomaly is present [1]. The main focus is placed on the new lifetime data in ^{107}Ag acquired via RDDS measurements. Reduced electromagnetic transition probabilities are evaluated and compared to Empiric [2] and Large-Scale Shell-Model calculations.

References

- [1] S. Lalkovski, ..., G. Stoev, et al., *Onset of the $j - 1$ anomaly in ^{103}Ag , submitted for publication.*
- [2] V. Karayonchev, P. Van Isacker, et al., *Phys. Rev. C* **99** (2019) 024326.