

## $^{202}\text{Ra}$

$^{202}\text{Ra}$  was first observed by Uusitalo et al. and the results were published in the 2005 paper “ $\alpha$  decay studies of very neutron-deficient francium and radium isotopes” (2005Uu02). A  $^{141}\text{Pr}$  target was bombarded with 278-288 MeV  $^{63}\text{Cu}$  beams from the Jyväskylä K-130 cyclotron forming  $^{201}\text{Ra}$  in the fusion-evaporation reaction  $^{141}\text{Pr}(^{63}\text{Cu},2n)$ . Reaction products were separated with the gas-filled recoil separator RITU and implanted in a position-sensitive silicon detector which measured subsequent  $\alpha$  decay. “Thus the activity with  $E_\alpha = 7740$  keV and  $T_{1/2} = 46$  ms can be identified to originate from the ( $0^+$ ) ground state of a new even-even isotope  $^{202}\text{Ra}$ .” Previously a too short half-life of  $0.7^{+3.3}_{-0.3}$  ms had been reported (1996Le09).

Adapted from reference (2013Fr09)

- 1996Le09 M. Leino, J. Uusitalo, R. G. Allatt, P. Armbruster *et al.*, *Z. Phys. A* **355**, 157 (1996).  
2005Uu02 J. Uusitalo, M. Leino, T. Enqvist, K. Eskola *et al.*, *Phys. Rev. C* **71**, 024306 (2005).  
2013Fr09 C. Fry and M. Thoennessen, *At. Data Nucl. Data Tables* **99**, 497 (2013).

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