# $^{159}$Lu

In, 1980 $^{159}$Lu was observed by Alkhazov et al. as described in "New isotope $^{159}$Lu and decay of $^{158}$Lu, $^{159,158}$Yb isotopes" (1980Al14). Tungsten targets were bombarded with 1 GeV protons from the Leningrad synchrocyclotron and $^{159}$Lu was produced in spallation reactions. It was separated with the IRIS mass separator and subsequent decays were measured with a surface-barrier and Ge(Li) detectors. "The half-life of the new isotope $^{159}$Lu was determined from X-ray, $\gamma$-ray and $\alpha$ particle measurement. [The figure] shows the Roentgen spectrum obtained at this isobar and the decay data for $K_{\alpha_1}$ Yb. To confirm our earlier preliminary assignment of 4.43 MeV $\alpha$ line ( $T_{1/2} \approx$ 20 s) to $^{159}$Lu we remeasured the $\alpha$ spectrum for this mass with higher statistics. From the present experiment we obtained $E_\alpha$ = 4.420±0.010 MeV for the energy of this new $\alpha$ line. The measured half-life $T_{1/2}$ = 12.0±1.5 s is in good agreement with the value obtained by X-ray and y-ray spectroscopy." The preliminary assignment was published a year earlier (1979Al16).

Adapted from reference (2012Gr19)


1979Al16 G. D. Alkhazov, L. K. Batist, E. Y. Berlovich, Y. S. Blinnikov *et al.*, Z. Phys. A **291**, 397 (1979).

1980Al14 G. D. Alkhazov, E. Y. Berlovich, K. A. Mezilev, Y. N. Novikov *et al.*, Z. Phys. A **295**, 305 (1980).

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