

## <sup>159</sup>Eu

Kuroyanagi et al. observed <sup>159</sup>Eu in 1961 as reported in “New activities in rare earth region produced by the ( $\gamma$ ,p) reactions” (1961Ku10). Pure oxide powder was irradiated with  $\gamma$ -rays at the Tohoku 25 MeV betatron. Decay curves were measured with a beta ray analyser or an end-window G-M counter and  $\beta$ -ray spectra were recorded with a plastic scintillator. “There has been no detailed investigation about the nuclide Eu<sup>159</sup> since Butement first gave its half-life as about 20 min in 1951... After a long time measurement, a long component activity observed in the decay curve shown in [the figure] was proved to be due to the 18-h activity from Gd<sup>159</sup> and the 15.4-h activity from Eu<sup>157</sup>. Subtracting these long components, we observed an activity of about 19 min.” The previous measurement mentioned in the quote was assigned by Butement to either <sup>159</sup>Eu or an isomeric state of stable gadolinium (1951Bu25).

Adapted from reference (2013Ma01)

- 1951Bu25 F. D. S. Butement, Proc. Phys. Soc. (London) A **64**, 395 (1951).  
1961Ku10 T. Kuroyanagi, H. Yuta, K. Takahashi, and H. Morinaga, J. Phys. Soc. Jap. **16**, 2393 (1961).  
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