^{149}Eu

In the 1959 paper "Conversion electrons from Eu^{149}" Antoneva et al. described the observation of ^{149}Eu (1959An36). At Dubna, tantalum targets were bombarded with 660 MeV protons and conversion electron spectra of the chemically separated spallation products were measured. "In investigating the gadolinium fraction, we found that after the decay of Gd^{147} and Gd^{149} there remained in the conversion spectrum lines corresponding to transitions of the above mentioned energies. The intensities of these lines fell off with a like period ($\sim$100 days). Apparently, our gadolinium fraction contained the parent of the europium activity under study. It follows, therefore, that this activity cannot be attributed to Eu^{147}, in as much as the half-life of Gd^{148} is greater than 35 years and, consequently, if the activity were due to Eu^{147} the intensity of our conversion lines would increase with time instead of decreasing. Thus it maybe safely be inferred that the observed conversion electrons are emitted in the $Eu^{149} \rightarrow Sm^{149}$ decay process." Previous tentative assignments of a 14 d half-life (1950Wi64, 1951MaZV) to ^{149}Eu were incorrect.

Adapted from reference (2013Ma01)

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