^{150}Eu

^{150}Eu was observed by Butement at the Atomic Energy Research Establishment in Harwell, UK, in 1950 as reported in "New radioactive isotopes produced by nuclear photo-disintegration" (1950Bu07). ^{150}Eu was produced through irradiation of europium oxide by 23 MeV x-rays from a synchrotron in the photonuclear reaction ^{151}Eu(γ,n) and chemically separated from other resultant isotopes (1951Bu25). In the original paper (1950Bu07) a probable assignment was only given in a table. More details were reported in the subsequent publication (1951Bu25): "The activity showed a nearly logarithmic decay with an apparent half-life of 12 hours. Such a decay, resulting from two slightly different half-lives, is difficult to resolve accurately unless one component is known. By assuming one component to be 9.2-hour ^{152}Eu which must have been formed, the best value for the half-life of the other component was 15 hours, and its yield was nearly equal to that of the ^{152}Eu. The 15-hour activity must almost certainly be ^{150}Eu, and since the abundances of ^{151}Eu and ^{153}Eu are nearly equal, the relative yield indicates a high counting efficiency, so that decay is probably by positron emission." Previously Pool and Quill had tentatively assigned a 27-h half-life to ^{150}Eu (1938Po05) which differs significantly from the correct value. The reported half-life corresponds to an isomeric state and the ground state was identified eleven years later by Harmatz et al. (1961Ha23).

Adapted from reference (2013Ma01)

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