^{154}Tb

Wilkinson and Hicks published the observation of ^{154}Tb in the 1950 paper "Radioactive isotopes of the rare earths. III. Terbium and holmium isotopes" (1950Wi13). Europium and gadolinium targets were bombarded with α-particles and protons, respectively, from the Berkeley 60-in. cyclotron. Electrons, positrons, γ-rays and X-rays were measured following chemical separation. "17.2±0.2-Hr. Tb^{154}: In all bombardments of europium with α-particles, and in low yields in proton bombardments of gadolinium a 17.2- hr. positron emitting activity was observed." Wilkinson and Hicks had assigned this half-life to ^{154}Tb two years earlier, however, at that time they classified it as "D" which means that they were only sure about the element and not the mass assignment. We credit Wilkinson and Hicks with the discovery although they incorrectly identified the neighboring nuclei ^{153}Tb and ^{155}Tb because subsequently their results were not questioned (1955Ha52, 1957Mi67). It is still not clear if this state corresponds to the ground state or an isomeric state (2021Ko07,2009Re14). A half-life of about 7.5 h was reported five years later by Handley and Lyon (1955Ha52).

Adapted from reference (2013Ma01)

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