^{133}Te

Wu described the identification of ^{133}Te at the University of California at Berkeley in the 1940 article "Identification of two radioactive xenons from uranium fission" (1940Wu05). Barium and cesium targets were irradiated with neutrons produced by bombarding beryllium with 16 MeV deuterons. Resulting activities were measured with an ionization chamber following chemical separation. "Based on these results, the two chains found in uranium and thorium fission may be identified as $_{52}$Te^{133} 60 min. $\rightarrow_{53}$I^{133} 22 hr. $_{54}$Xe^{133} 5 days $\rightarrow_{55}$Cs^{133}..." The 60-min tellurium activity itself was observed by bombarding uranium with neutrons produced by the Berkeley cyclotron and reported earlier in 1940 (1940Se06). A 1 hr half-life had been reported earlier without a mass assignment (1939Ab05, 1939Ab04, 1939Ab02). The ^{133}Te half-life corresponds to an isomeric state and the ground state was measured 25 years later by Prussin and Meinke (1965Pr08).

Adapted from reference (2013Ka01)

1939Ab02 P. H. Abelson, Phys. Rev. **56**, 1 (1939).
1939Ab04 P. Abelson, Phys. Rev. **55**, 876 (1939).
1939Ab05 P. Abelson, Phys. Rev. **55**, 670 (1939).
1940Se06 E. Segre and C. S. Wu, Phys. Rev. **57**, 552 (1940).
1940Wu05 C. S. Wu, Phys. Rev. **58**, 926 (1940).
1965Pr08 S. G. Prussin and W. W. Meinke, Radiochim. Acta **4**, 79 (1965).
2013Ka01 J. Kathawa, C. Fry, and M. Thoennessen, At. Data Nucl. Data Tables **99**, 22 (2013).

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