

## <sup>189</sup>Tl

Vandlik et al. reported the discovery of <sup>189</sup>Tl in the 1972 paper “The new isotope Tl<sup>189</sup>” (1972Va12). 660 MeV protons from the Dubna synchrocyclotron bombarded a PbF<sub>2</sub> target. Reaction products were separated with the online isotopes separation facility YaSNAPP and  $\gamma$  rays were measured with a Ge(Li) detector. “The agreement in the half-lives of the analyzed lines indicates, in all probability, that they belong to the decay of one and the same isotope having a state with a half-life  $T_{1/2} = 1.4 \pm 0.4$  min. In view of the procedure used to obtain this isotope, it is identified as Tl<sup>189</sup>.” The ground state was observed for the first time two years later (1974Ha10).

Adapted from reference (2013Fr04)

- 1972Va12 T. B. Vandlik, Y. Vandlik, N. G. Zaitseva, Z. Mate *et al.*, JETP Lett. (USSR) **15**, 271 (1972).  
1974Ha10 J. H. Hamilton, E. H. Spejewski, R. L. Mlekodaj, W. D. Schmidt-Ott *et al.*, Bull. Acad. Sci. USSR, Phys. Ser. **38**, 22 (1974).  
2013Fr04 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 365 (2013).

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