^{221}Th

In 1970, Torgerson and Macfarlane reported the first observation of ^{221}Th in "Alpha decay of the ^{221}Th and ^{222}Th decay chains" (1970To07). A 10.6 MeV/nucleon ^{16}O beam from the Yale heavy ion accelerator was used to bombard ^{208}Pb target forming ^{221}Th in (3n) fusion-evaporation reactions. Recoil products were transported to a stainless steel surface with a helium jet and α spectra were measured with a Si(Au) surface barrier detector. "On the basis of excitation function and half-life data, the groups observed at 8.472, 8.146 and 7.733 MeV are assigned to ^{221}Th. Decay curves for these activities have been measured and the half-life of ^{221}Th was found to be 1.68$\pm$0.06 msec." Three days later Valli et al. reported a half-life of 1.8(3) ms for ^{221}Th (1970Va13).

Adapted from reference (2013Fr03)

1970To07 D. F. Torgerson and R. D. Macfarlane, Nucl. Phys. A **149**, 641 (1970).
1970Va13 K. Valli, E. K. Hyde, and J. Borggreen, Phys. Rev. C **1**, 2115 (1970).
2013Fr03 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 345 (2013).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"