

²³⁰Pa

Studier and Hyde reported the discovery of ²³⁰Pa in the 1948 paper “A new radioactive series - the protactinium series” (1948St42). Thorium metal targets were bombarded with 19 MeV deuterons and a 38 MeV ⁴He beam from the Berkeley 60-inch cyclotron forming ²³⁰Pa in (d,p4n) and (α ,p5n) reactions. Alpha-decay spectra were measured following chemical separation. “A preliminary value was obtained by extracting and measuring the U²³⁰ produced in equal periods of time from a sample of protactinium. In this manner a crude half-life value of about two weeks was obtained. A more accurate value was obtained by mounting a sample of Pa²³⁰ on a platinum counting disk and following the rate of change of the alpha-activity of the sample... In this way using three separate samples a value of 17.0±0.5 days was determined for the half-life of Pa²³⁰.”

Adapted from reference (2013Fr03)

1948St42 M. H. Studier and E. K. Hyde, Phys. Rev. **74**, 591 (1948).

2013Fr03 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 345 (2013).

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