# $^{228}$U

Meinke et al. reported the observation of $^{228}$U in the 1949 paper "Three additional collateral alpha-decay chains" (1949Me54). Thorium was bombarded with 100−120 MeV $^{4}$He beams from the Berkeley 184-inch cyclotron. Alpha-decay chains from $^{228}$U and $^{229}$U were measured following chemical separation. "Immediately after 120-Mev helium ion bombardment of thorium the uranium fraction contains another series of five alpha-emitters, which is apparently a collateral branch of the 4n family: $_{92}U^{228} \xrightarrow{\alpha} {}_{90}Th^{224} \xrightarrow{\alpha} {}_{88}Ra^{220} \xrightarrow{\alpha} 4_{86}Em^{216}$ ... The 9.3-minute half-life of $U^{228}$ controls the decay rate of the series, with the half-lives of all the other members too short for them to be isolated and separately studied in our experiments."

Adapted from reference (2013Fr03)


1949Me54 W. W. Meinke, A. Ghiorso, and G. T. Seaborg, Phys. Rev. **75**, 314 (1949).

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