^{135}La

^{135}La was discovered by Chubbuck and Perlman at Berkeley in the 1948 paper "Neutron deficient isotopes of cerium and lanthanum" (1948Ch03). The Berkeley 60-inch cyclotron was used to bombard $CsNO_3$ targets with 30 MeV α particles and ^{135}La was produced in the reaction ^{133}Cs(α,2n). ^{135}La was identified with a β-ray spectrometer and by measuring X-rays, γ-rays and absorption spectra following chemical separation. "The lanthanum fraction was separated and the decay curve resolved into two components of 2.1-hour and 19.5-hour half-lives... As indicated in [the Table], the 2.1-hour activity was formed in about 1/100 the yield of the 19.5-hour activity. With the energy of helium ions employed (30 Mev), the (α,2n) reaction is more prolific than the (α,n) reaction. The order of the decay energies is also compatible with the assignment of the 2.1-hour period to La^{136} and the 19.5-hour period to La^{135}." The assignment of the 2.1-h period to ^{136}La was later shown to be incorrect (1950Na09).

Adapted from reference (2012Ma48)

1948Ch03 J. B. Chubbuck and I. Perlman, Phys. Rev. **74**, 982 (1948).

1950Na09 R. A. Naumann, F. L. Reynolds, and I. Perlman, Phys. Rev. **77**, 398 (1950).

2012Ma48 E. May and M. Thoennessen, At. Data Nucl. Data Tables **98**, 960 (2012).

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