

⁶H

The first observation of ⁶H was reported in 1984 by Aleksandrov et al. in “Observation of an unstable superheavy hydrogen isotope ⁶H in the reaction ⁷Li(⁷Li, ⁸B)” (1984A108). ⁷Li ions were accelerated to 82 MeV by the Kurchatov Institute Isochronous Cyclotron and bombarded an enriched ⁷Li target. Charged particles were detected and identified with semiconductor detectors by measuring energy-loss, energy and time of flight. “Thus, the maximum observed at an energy 35–40 MeV of the ⁸B nuclei is due to formation of the unstable nucleus ⁶H... The mass defect is 41.9±0.4 MeV, from which it follows that ⁶H is unstable against the decay ⁶H → ³H + 3n by 2.7±0.4 MeV, and the width is $\Gamma = 1.8 \pm 0.5$ MeV, which gives for the ⁶H lifetime a value $3.7 \cdot 10^{-22}$ sec.”

Adapted from reference (2012Th01)

1984A108 D. V. Aleksandrov, E. A. Ganza, Yu. A. Glukhov, B. G. Novatsky *et al.*, Sov. J. Nucl. Phys. **39**, 323 (1984).

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