

¹⁴⁵Gd

Grover published “Mass assignments and some decay characteristics of Gd¹⁴⁵, Eu¹⁴⁵, Gd¹⁴⁶, and Eu¹⁴⁶” in 1959 describing the observation of ¹⁴⁵Gd ([1959Gr10](#)). An enriched ¹⁴⁴Sm₂O₃ target was bombarded with 40 MeV α particles from the Brookhaven 60-in. cyclotron. Gamma-ray spectra were measured with a NaI(Tl) scintillation crystal following chemical separation. “The mass number of the 25-minute activity is thus most probably 145. Also, it is quite likely that it is a parent of the previously identified 5-day Eu¹⁴⁵, and is therefore Gd¹⁴⁵, its formation being consistent with the reaction $\text{Sm}^{144}(\alpha,3n)\text{Gd}^{145}$.” Previously a 24(1) min half-life was assigned to either ¹⁴⁴Gd or ¹⁴⁵Gd ([1959OI23](#)).

Adapted from reference ([2013Ma01](#))

- [1959Gr10](#) J. R. Grover, Phys. Rev. **116**, 406 (1959).
[1959OI23](#) J. Olkowsky, M. Le Pape, I. Gratot, and L. Cohen, Nucl. Phys. **12**, 527 (1959).
[2013Ma01](#) E. May and M. Thoennessen, At. Data Nucl. Data Tables **99**, 1 (2013).

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