

## $^{234}\text{Np}$

The observation of  $^{234}\text{Np}$  was described in the 1949 paper “Products of the deuteron and helium-ion bombardments of  $\text{U}^{233}$ ” by Hyde et al. (1949Hy04).  $^{233}\text{U}$  targets were bombarded with 44 MeV  $\alpha$  particles from the Berkeley 60-in. cyclotron. Alpha-particle absorption and decay spectra were measured following chemical separation. In addition,  $\gamma$ -rays were detected with an argon alcohol filled end-window tube. “ $\text{Np}^{234}$  is shown to be an orbital-electron-capturing isotope of  $4.40\pm 0.05$  days half life with an associated  $\gamma$  ray of 1.9 mev energy.” James et al. had assigned a 4.5 d half-life to either  $^{233}\text{Np}$  or  $^{234}\text{Np}$  (1949Ja01).

Adapted from reference (2013Fr02)

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- 1949Ja01 R. A. James, A. E. Florin, H. H. Hopkins Jr., and A. Ghiorso, *The Transuranium Elements: Research Papers, Book 2, Vol. 14B, paper 22. 8*, G. T. Seaborg ed. , p. 1604 (1949).
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