^{174}Re

In the 1972 paper "Short-lived osmium isotopes" Berlovich et al. reported the observation of ^{174}Re (1972Be89). A mercury target was bombarded with 1 GeV protons from the Leningrad synchrocyclotron. Gamma-ray spectra were measured with a Ge(Li) detector following chemical separation. "[The table] gives the γ-lines whose intensities decrease with $T_{l/2}$ = (2.2$\pm$0.2) min. We ascribe this period to the decay of a previously unknown isotope of ^{174}Re for the following reasons: a) the 'accumulation' of γ-lines of this isotope occurs with a period of $\sim$1 min, which is close to $T_{1/2}$ for ^{174}Os (45 sec); b) the most intense γ-rays, 112.4 and 243.6 keV agree well in energy with the transitions $2^+ \rightarrow 0^+$ and $4^+ \rightarrow 2^+$ of the rotational band of the ground state of ^{174}W which are known from the nuclear reactions (111.9 and 243.0 keV)."

Adapted from reference (2012Ro36)

1972Be89 E. E. Berlovich, Y. S. Blinnikov, P. P. Vaishnis, V. D. Vitman *et al.*, Bull. Acad. Sci. USSR, Phys. Ser. **36**, 2165 (1973).

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Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"