

## <sup>170</sup>Hf

The first identification of <sup>170</sup>Hf was described by Merz and Caretto in “Neutron-deficient nuclides of hafnium and lutetium” in 1961 ([1961Me05](#)). Tantalum, tungsten and Lu<sub>2</sub>O<sub>3</sub> targets were irradiated with 300-400 MeV protons from the Carnegie Institute of Technology synchrocyclotron in Pittsburgh. After chemical separation  $\gamma$ -rays and positrons were measured with a NaI crystal and a magnetic spectrometer with an anthracene crystal, respectively. “A previously unreported activity with a half-life of  $(9\pm 2)$  hr was observed in the hafnium fraction, which cannot result from the reported 12- or 16-hr activities for Hf<sup>171</sup>, because the half-life reported in this work was derived from milking a 1.9-day lutetium activity from the hafnium fraction. The 1.9-day lutetium activity is Lu<sup>170</sup>.”

Adapted from reference ([2012Gr19](#))

- [1961Me05](#) E. R. Merz and A. A. Caretto Jr., Phys. Rev. **122**, 1558 (1961).  
[2012Gr19](#) J. L. Gross and M. Thoennessen, At. Data Nucl. Data Tables **98**, 983 (2012).

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