

## **<sup>208</sup>Th**

Heredia et al. identified <sup>208</sup>Th in the 2010 paper “The new isotope <sup>208</sup>Th” (2010He25). <sup>64</sup>Ni beams at energies of 288 and 294 MeV from the GSI UNILAC bombarded an enriched <sup>147</sup>SmF<sub>3</sub> target forming <sup>208</sup>Th in (3n) fusion-evaporation reactions. Reaction products were separated with the velocity filter SHIP and implanted in a silicon detector which also recorded subsequent  $\alpha$ -decay. “Four decay chains, shown in [the table], were found. The decay properties of the last three members of these chains are in good agreement with the published values of the descendants of <sup>208</sup>Th, i.e. the isotopes <sup>204</sup>Ra, <sup>200</sup>Rn and <sup>196</sup>Po. An  $\alpha$ -decay energy of 8044(30) keV and a half-life of  $1.7^{+1.7}_{-0.6}$  ms were deduced for <sup>208</sup>Th.” In an earlier measurement only an upper limit for the production cross section of <sup>208</sup>Th was given (2006Ku07).

Adapted from reference (2013Fr03)

- 2006Ku07 J. Kurcewicz, Z. Liu, M. Pfutzner, P. J. Woods *et al.*, Nucl. Phys. A **767**, 1 (2006).  
2010He25 J. A. Heredia, A. N. Andreyev, S. Antalic, S. Hofmann *et al.*, Eur. Phys. J. A **46**, 337 (2010).  
2013Fr03 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 345 (2013).

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