^{104}Zr

The first clean identification of ^{104}Zr was described in "New Neutron-Rich Nuclei ^{103,104}Zr and the A$\sim$100 Region of Deformation," by Hotchkis et al. in 1990 (1990Ho12). The ^{104}Zr level scheme was measured at the Argonne-Notre Dame γ-ray facility following the spontaneous fission of ^{248}Cm with an array of ten bismuth-germanate-suppressed Ge detectors and fifty bismuth-germanate scintillators. "We have for the first time determined partial decay schemes in the nuclei ^{103}Zr and ^{104}Zr and determined extensive new data on $^{100-102}$Zr." Levels at 140.3, 452.8, 926.5, and 1551.3 keV were presented in a level scheme. A previous measurement of a level at 251.7 keV was incorrect (1972Ho08). The observation of ^{104}Zr could be deduced from the fragment mass-charge-kinetic energy correlation measurements of neutron induced fission of ^{235}U by Signarbieux et al. (1985Si25). The heavy mass charge distribution of the mass ratio 132/104 showed evidence for ^{132}Te and the complementary fragment would be ^{104}Zr. However, they did not show the light mass charge distribution.

Adapted from reference (2012Ny02)

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