^{191}Ta

Alkhomashi et al. observed ^{191}Ta in the 2009 paper "β^--delayed spectroscopy of neutron-rich tantalum nuclei: Shape evolution in neutron-rich tungsten isotopes" (2009Al30). A beryllium target was bombarded with a 1 GeV/nucleon ^{208}Pb beam from the SIS-18 heavy-ion synchrotron at GSI, Germany. Projectile-like fragments were separated with the FRS and implanted in a series of double-sided silicon strip detectors where correlated β-decay was measured in coincidence with γ-rays in the γ-ray spectrometer RISING. "The insets of [the figure] show the time spectra associated with β decays of ^{188}Ta, ^{190}Ta, and ^{192}Ta, gated on discrete γ-ray lines identified in the tungsten daughter nuclei." Although not specifically mentioned in the text, evidence for ^{191}Ta is clearly visible in the two-dimensional particle identification plot. The authors did not consider their observation a discovery because of a previous publication in a conference proceeding (2009St16).

Adapted from reference (2012Ro36)

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