^{156}W

The discovery of ^{156}W was first published in November 2023 by Briscoe et al. in "Decay spectroscopy at the two-proton drip line: Radioactivity of the new nuclides ^{160}Os and ^{156}W" (2023Br10). However, the paper was submitted on 7/11/2023, six days after (7/5/2023) the submission by Yang et al. entitled "Discovery of New Isotopes ^{160}Os and ^{156}W: Revealing Enhanced Stability of the N=82 Shell Closure on the Neutron-Deficient Side" (2024Ya04). Thus the primary credit for the discovery is given to Yang et al. Isotopically enriched ^{106}Cd targets were irradiated with a 335 MeV ^{58}Ni beam accelerated by the Sector Focusing Cyclotron of the Heavy Ion Research Facility at Lanzhou. Evaporation residues from the reaction ^{106}Cd(^{58}Ni,4n)^{160}Os were separated with the Spectrometer for Heavy Atoms and Nuclear Structure (SHANS) and implanted in three position-sensitive silicon strip detectors. These detectors as well as eight other silicon detectors surrounding the implantation detectors recorded correlated α-particles. "The measured α-particle energy and half-life values of ^{160}Os are 7080(26) keV and 201^{+58}_{-37} μs, respectively. The half-life of ^{156}W was determined to be 291^{+86}_{-61} ms." Yang et al. acknowledge the work by Briscoe et al. in a note added: "Recently, a parallel effort to discover ^{160}Os and ^{156}W (2023Br10) was published. We note that our results are in agreement with the reported data within the experimental accuracy."

Adapted from reference (2024Th02)

2023Br10 A. D. Briscoe, R. D. Page, J. Uusitalo, D. T. Joss *et al.*, Phys. Lett. B **847**, 138310 (2023).

2024Th02 M. Thoennessen, Int. J. Mod. Phys. E **33**, 2430001 (2024).

2024Ya04 H. B. Yang, Z. G. Gan, Y. J. Li, M. L. Liu *et al.*, Phys. Rev. Lett. **132**, 072502 (2024).

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