^{167}Re

The identification of ^{167}Re was published in 1992 in "Revision of the decay data of $^{166-170}$Re, including new isomers ^{167m,169m}Re" by Meissner et al. (1992Me10). ^{141}Pr targets were irradiated with a 235 MeV ^{32}Si beam from the VICKSI accelerator facility at the Hahn-Meitner-Institut, Berlin, Germany. The reaction products were transported to a surface barrier α-detector, mounted between a γ-X detector and a γ-detector with a helium jet system and a fast transport tape. "The earlier reported 5.26 MeV and also the new 5.02 MeV α-rays display a similar excitation function as ^{167}W and are consequently assigned to ^{167}Re." The measured half-lives of 6.2(5) s and 3.4(4) s correspond to an isomeric and the ground state, respectively. The 5.26 MeV α-energy mentioned in the quote for ^{167}Re had previously been assigned to ^{168}Re (1978Ca11, 1982De11, 1984Sc06). Meissner also demonstrated that α-decay assignments by Schrewe et al. (1984Sc06) to $^{166-168}$Re were most likely from $^{163-165}$W.

Adapted from reference (2012Ro36)

1978Ca11 C. Cabot, S. Della Negra, C. Deprun, H. Gauvin, and Y. Le Beyec, Z. Phys. A **287**, 71 (1978).

1982De11 S. Della Negra, C. Deprun, D. Jacquet, and Y. Le Beyec, Ann. Phys. (Paris) **7**, 149 (1982).

1984Sc06 U. J. Schrewe, E. Hagberg, H. Schmeing, J. C. Hardy *et al.*, Z. Phys. A **315**, 49 (1984).

1992Me10 F. Meissner, H. Salewski, W. D. Schmidt-Ott, U. Bosch-Wicke, and R. Michaelsen, Z. Phys. A **343**, 283 (1992).

2012Ro36 R. Robinson and M. Thoennessen, At. Data Nucl. Data Tables **98**, 911 (2012).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"