^{260}Db

Ghiorso et al. discovered ^{260}Db as described in "New element hahnium, atomic number 105" in 1970 (1970Gh02). A ^{249}Cf target was bombarded with a 85 MeV ^{15}N beam from the Berkeley heavy-ion linear accelerator (HILAC) forming ^{260}Db in the (4n) fusion-evaporation reaction. Recoil products were removed from the target with a helium jet and implanted on a wheel which was periodically rotated in front of a series of solid-state Si-Au surface barrier detectors to measure α-spectra. "In the inset above the sum spectrum in [the figure] there is shown an alpha spectrum of 30-sec ^{256}Lr produced by the reaction ^{249}Cf(^{11}B,4n)^{256}Lr. Because of the similarity of the sum spectrum with the spectrum in the inset, and the good agreement of the half-lives, the daughter activity is assigned to ^{256}Lr and therefore the 9.1-MeV mother activity has to be ^{260}105." Ghiorso et al. could not confirm earlier results by Flerov et al. which were only published in a conference proceeding (1968Fl04) and an internal report (1968Fl09). Bemis et al. confirmed the identification of ^{260}Db by measuring L-series X-rays of lawrencium: "Our results for ^{260}105 completely corroborate and extend the earlier experiments of Ghiorso et al. The unique identification provided for element 105 in our present experiments unequivocally supports the discovery claims for element 105 proffered by Ghiorso et al." (1977Be36).

Adapted from reference (2013Th02)

1968Fl04 G. N. Flerov, Proc. Intern. Conf. Nucl. Struct. , Tokyo (1967).

1968Fl09 G. N. Flerov, V. A. Druin, A. G. Demin, Y. V. Lobanov *et al.*, JINR-P7-3808(1968).

1970Gh02 A. Ghiorso, M. Nurmia, K. Eskola, J. Harris, and P. Eskola, Phys. Rev. Lett. **24**, 1498 (1970).

1977Be36 C. E. Bemis Jr., P. F. Dittner, R. J. Silva, R. L. Hahn *et al.*, Phys. Rev. C **16**, 1146 (1977).

2013Th02 M. Thoennessen, At. Data Nucl. Data Tables **99**, 312 (2013).

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