^{136}Nd

The assignment of ^{136}Nd was reported in 1968 in "A new neodymium isotope (A = 136) and its Decay Properties" by Zhelev et al. from Dubna (1968Zh04). A 660 MeV proton beam bombarded a gadolinium target and ^{136}Nd was identified with γ- and β-ray spectra following chemical separation. "We have previously reported the discovery of ^{137}Nd, with a half life of 55.0 $\pm$ 1.5 min. Here we show that the β^+ and γ radiations observed in the 55-min neodymium activity are not due to decay of ^{137}Nd but to decay of a new isotope, ^{136}Nd, and its daughter ^{136}Pr." The paper mentioned in the quote is reference (1965Gr24). A 1-hour activity had previously been measured in neodymium (1934Fe01, 1935Am01, 1935He03) but no mass assignment were made.

Adapted from reference (2012Gr02)

1934Fe01 E. Fermi, E. Amaldi, O. D'Agostino, F. Rasetti, and E. Segre, Proc. Roy. Soc. (London) **146**, 483 (1934).

1935Am01 E. Amaldi, O. D'Agostino, E. Fermi, B. Pontecorvo *et al.*, Proc. Roy. Soc. (London) A **149**, 522 (1935).

1935He03 G. Hevesy and H. Levi, Nature **136**, 103 (1935).

1965Gr24 K. Gromov, V. Kalinnikov, V. Kuznetsov, N. Lebedev *et al.*, Nucl. Phys. **73**, 65 (1965).

1968Zh04 Z. Zhelev, V. G. Kalinnikov, J. Liptak, and L. K. Peker, Bull. Acad. Sci. USSR, Phys. Ser. **32**, 1497 (1969).

2012Gr02 J. L. Gross, J. Claes, J. Kathawa, and M. Thoennessen, At. Data Nucl. Data Tables **98**, 75 (2012).

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