

¹⁹⁸Po

Brun et al. reported the observation of ¹⁹⁸Po in the 1965 paper “Caractéristiques des désintégrations alpha des isotopes légers du polonium” (1965Br17). Bismuth targets were irradiated with 80–155 MeV protons from the Orsay synchrocyclotron forming ¹⁹⁸Po in (p,xn) reactions. Excitation functions and α spectra were measured following chemical separation. “Pour l’isotope 199 nous avons dû admettre deux isomères (T = 4.1 m pour α de 6.04 MeV et T = 5.5 m pour α de 5.93 MeV). La raie alpha de 6.16 MeV attribuée autrefois à ¹⁹⁶Po est due à une désintégration de ¹⁹⁸Po (T = 1.7 m) et enfin pour ¹⁹⁷Po deux isomères ont été trouvés, l’un de T = 58 s (alpha de 6.27 MeV environ) et l’autre de T = 29 pour lequel la raie alpha de 6.37 MeV est au moins trois fois plus intense.” [For the isotope 199 we observed two isomers (T_{1/2} = 4.1 min for a 6.4 MeV α and T_{1/2} = 5.5 min for a 5.93 MeV α). The 6.16 MeV α line formerly attributed to ¹⁹⁶Po is due to the decay of ¹⁹⁸Po (T_{1/2} = 1.7 m) and finally two isomeric states were found in ¹⁹⁷Po, one with T_{1/2} = 58 s (6.27 MeV α) and the other with T_{1/2} = 29 s with a 6.37 MeV α which is at least three times more intense.] The group had reported half-lives of these polonium isotopes a year earlier (1964Br23), however, the mass assignments were incorrect. Also, tentative assignments of 6 min (1954Ro39) and ~7 min (1959At77) to ¹⁹⁸Po were incorrect.

Adapted from reference (2013Fr04)

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