^{254}Lr

In the 1981 paper "Identification of element 107 by α correlation chains" Münzenberg at al. described the discovery of ^{254}Lr (1981Mu06). A 4.85 MeV/u ^{54}Cr from the GSI UNILAC linear accelerator bombarded ^{209}Bi targets forming ^{262}Bh in the (1n) fusion-evaporation reaction. ^{254}Lr was then populated by α-decay. Recoil products were separated with the velocity filter SHIP and implanted in seven position sensitive surface barrier detectors which also measured the subsequent α-decays and spontaneous fission. Three events for the decay of ^{254}Lr were measured. In addition, ^{254}Lr was also observed in the fusion evaporation reaction ^{209}Bi(^{50}Ti,n) at a beam energy of 4.75 MeV/u: "^{258}105 can be produced in ^{50}Ti on ^{209}Bi irradiations by evaporation of one neutron. At 4.75 MeV/u we observed decays of (9,189±35) keV and (9,066±35) keV with ($4.0^{+1.8}_{-1.6}$) s half-life and (8,468±30) keV with (18^{+19}_{-6}) s half-life corresponding to ^{258}105 and ^{254}Lr respectively in good agreement to the data from ^{262}107 shown in the table."

Adapted from reference (2013Th02)

1981Mu06 G. Munzenberg, S. Hofmann, F. P. Hessberger, W. Reisdorf *et al.*, Z. Phys. A **300**, 107 (1981).

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