^{128}Sm

Suzuki et al. discovered ^{128}Sm in "Discovery of Proton-Rich Radioactive Isotopes in the Z = 60 Region Produced by the Projectile Fragmentation of a 345-MeV/Nucleon ^{238}U Beam" (2025Su21). The RI Beam Factory at RIKEN delivered the 345-MeV/Nucleon primary ^{238}U Beam to a 1-mm thick beryllium production target. The fast fragments were separated with the BigRIPS in-flight separator and identified by the measurements of time of flight (TOF), the magnetic rigidities before and after a degrader, and the energy loss. "The new isotopes observed in our present study were 13 nuclides in total: $^{118,119}_{57}$La, $^{119,120}_{58}$Ce, $^{122,123}_{59}$Pr, $^{123,124,126}_{60}$Nd, $^{125,126,127}_{61}$Pm, and $^{128}_{62}$Sm."

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