V. T. Kupryashkin, L. P. Sidorenko, A. I. Feoktistov, V. A. Lasko

YIELDS OF e_0 -ELECTRONS FROM THE TARGET SURFACE BY BOMBARDING IT BY α -PARTICLES OF DIFFERENT ENERGIES IN THE RANGE FROM 0.9 TO 5.5 MeV

The yields near-zero energy electrons(e_0 -electrons) and fast electrons (e_f -electrons) in the bombardment of targets of aluminum and titanium by α -particles of 238 Pu in the low-energy α -particles region (range 0.9 - 5.5 MeV) were measured. An increase in output e_0 - and e_f -electrons is observed when the energy of α -particles is reduced. Outputs e_0 -electrons for α -particles of different energies E_α in this area is well described by the dependence (E_α) ~ $E_\alpha^{-1/2}$ ~ v⁻¹ as previously has been observed in our studies of the decay of 226 Ra (range 4.7 - 7.6 MeV) and the bombardment of the target by α -particles at cyclotron U-120 (range 9.7 - 24 3 MeV).

Keywords: transmission of α -particles through the matter, ionization, yields of near-zero energy electrons.