THE CROSS SECTIONS FOR (n, x) NUCLEAR REACTIONS ON TERBIUM AND LUTETIUM ISOTOPES

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Neutron cross sections have been measured for Lu and Tb isotopes with neutron activation method. Foils of natural lutetium and terbium were irradiated by neutrons produced by neutron generator NG-300/15. To ensure results accuracy and precision the coincidence summing and self-absorption effects have been taken into account. Calculations of efficiency and corrections have been performed with Monte Carlo simulations. The cross section results obtained for ^{175}Lu(n, α)^{172}Tm reactions were reported for the first time. Theoretical calculations of excitation functions were conducted with the Talys-1.0 code.