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Neutrons transfers and fusion in reactions with halo nucleus 6He

The probabilities p of the external neutron transfer of 6He and 18O nuclei at different energies of the neutron separation ε, energies in a center of mass system E and collision impact parameter b were calculated via a numerical solution to the nonstation ary Schrödinger equations [1]. An analytical approximation of the probability was found and used to calculate the cross section for formation of the 198Au isotope in the 6He + 197Au reaction. The calculation results agree satisfactorily with the experimental data [2] for energies near the Coulomb barrier.

REFERENCES

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