Application of the KANTBP 3.1 Program and its Modifications to the Study of Some Nuclear Reactions Processes

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The KANTBP 3.1 program [1] for calculating the energies, reflection and transmission matrices, and the corresponding wave functions in the coupled-channels approximation of the adiabatic approach was applied to study several nuclear fusion reactions [2]–[5]. The effectiveness of the KANTBP 3.1, with respect to the widely used programs of NRV [6] and CCFULL [7] essentially at low and large collision energies, is mainly determined by the correct formulation of boundary conditions.

In this talk we discuss about application of KANTBP 3.1 program to solve multichannel scattering problem with complex potentials for studying nuclear fusion and quasielastic reactions. A comparison of the results obtained using the KANTBP 3.1, R-matrix [8] and modified version of the Numerov method within the CCFULL model [9] is presented.

References

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