MODEL OF THREE-DIMENSION SCATTERING FOR NUCLEAR AND MOLECULAR APPLICATION

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The problem of scattering for non-centrum forces can be responsible for new interesting effects. It has been showed for examples of resonance scattering of two-atomic rigid molecule [1] or neutron scattering at non-spherical nuclei [2]. The result of scattering at field with axial symmetry is very different one at centrally symmetrical field.

The investigation in this area has been continued. The problem of scattering for axial-nonsymmetry fields has been investigated. The case of mirror symmetry over plane which contain vector of incoming wave has been considered.

The method of solution is reduction of basic equation to three-dimension equation. Wave function is presented as decomposition by azimuthal functions. The problem has been solved numerically by direct discretization two-dimension reduced equation. The additional decomposition of the solution by free equation wave functions on the region of geometrical shadow has been used.

The new result of neutron scattering at non-spherical nuclear and rigid molecular scattering at zone plate target has been received.

1. P.M.Krassovitskiy *et al.* // Bull. Russ. Acad. Sci. Phys. 2017. V.81. P.730.
2. P.M.Krassovitskiy *et al.* // Bull. Russ. Acad. Sci. Phys. 2019. V.83. P.420.