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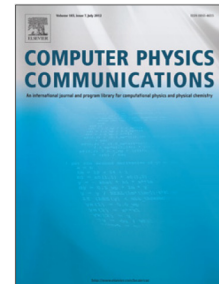
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# Capture cross section with quantum diffusion approach

V.V.Sargsyan<sup>a,b,\*</sup>, S.Yu.Grigoryev<sup>a,\*\*</sup>, G.G.Adamian<sup>a</sup>, N.V.Antonenko<sup>a,c</sup>

<sup>a</sup>*Joint Institute for Nuclear Research, 141980 Dubna, Russia*

<sup>b</sup>*Institut für Theoretische Physik der Justus-Liebig-Universität, D-35392 Giessen, Germany*

<sup>c</sup>*Tomsk Polytechnic University, 634050 Tomsk, Russia*

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## Abstract

A C++ code for calculating the capture of a projectile by target nucleus is described. The code is based on the quantum diffusion model developed for considering collisions of nuclei at energies below and above the Coulomb barrier. The code provides the capture cross sections and other characteristics of reaction as functions of  $E_{c.m.}$ . The formalism of the model is briefly described. The code contains the Fortran subroutine to calculate the nucleus-nucleus potential.

*Keywords:* capture reactions, quantum diffusion approach, dissipative dynamics

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## PROGRAM SUMMARY

*Program title:* NuclearCapture

*Program files doi:* <http://dx.doi.org/10.17632/n66yg8mdzs.1>

*Licensing provisions:* GNU General Public License v2

*Programming language:* C++, Fortran

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\* *E-mail address:* sargsyan@theor.jinr.ru

\*\* *E-mail address:* grigorsu@gmail.com

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