

# **Methods for Parallelization of Multigroup Transport Problems Solution for 2D and 3D Geometry**

R.M. Shagaliev\*, A.V. Alexeyev, I.M. Belyakov, O.E. Vlasova, V.V. Evdokimov,  
A.A. Nuzhdin, V.Yu. Rezhnikov, S.V. Subbot

Russian Federal Nuclear Center –  
All-Russian Scientific Research Institute of Experimental Physics (RFNC-VNIIEF)  
Institute of Theoretical and Mathematical Physics  
37 Mir Avenue, Sarov, N. Novgorod Region, 607190, Russia

Numerical solution of multidimensional transport problems in the group transport approximation is a most labor-intensive issue of computational mathematics. A most promising way to speed up computations of this problem class is using parallelization algorithms on modern multi-processor computers.

The paper discusses a technique for solving the 2D and 3D multigroup transport equation. Schemes like the DS<sub>n</sub> methods are used for the equation approximation. The equation system is solved using the running computation methods. The numerical solution is accelerated using different types of parallelization methods, in particular, the pipeline scheme and building-block algorithm based on the principle of spatial decomposition of the original system into subdomains.

The paper presents results of the numerical studies for efficiency of the methods under discussion for multidimensional transport equation calculation parallelization on a large number of processors.

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\* Corresponding author. E-mail: shagaliev@vniief.ru