

# Numerical Modeling of Neutron Flux in Hexagonal Geometry

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## **Abstract**

In this paper we deal with numerical methods for the multigroup neutron diffusion equation in the VVER type nuclear reactors. Characteristic feature of these reactors are their hexagonal fuel assemblies. This fact has significant consequences for numerical solution of particular equations. We use nodal methods to establish the numerical solution. The main advantage of this class of methods is their high speed without substantial loss of accuracy. We also study a modern variant of nodal methods, i.e. the nodal methods involving conformal mapping. These methods give more accurate results than classical nodal methods. We conclude with a few numerical experiments.