

Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3)
Departament Badań Układów Złożonych (DUZ)

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**On an investigation into some new algorithms for the
solution of stationary and time-dependent spatial neutron
diffusion equations**

Abstract:

Designing a nuclear reactor properly needs to predict some measurable parameters such as neutron flux, the effective multiplication factor, the power distribution during the accidents conditions, etc. For the neutronic assessment of nuclear reactor power, the stationary and time-dependent spatial neutron diffusion calculations can be employed. Due to the complexity of the problems, usually different numerical approaches are employed. The solution of the equations usually depends on a number of parameters such as the number, position, and non-orthogonality of the meshes/volumes/elements, the discretization approximations, computational costs, etc. In this presentation, some new algorithms for the efficient solution of the stationary and time-dependent spatial neutron diffusion equations will be discussed.

Serdecznie zapraszamy,
M. Dąbrowski, T. Kwiatkowski