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Domain decomposition for the SP_N solver MINOS. (English) Zbl 1273.82081
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This paper studies the SP_N transport equations by using a domain decomposition method based on the Schwarz iterative algorithm. The authors establish the convergence of the method and they develop an asymptotic method to optimize the choice of the Robin matrices that appear in the interface conditions of Robin type. The numerical experiments are done by using the MINOS solver.

Reviewer: **Vicențiu D. Rădulescu (Craiova)**

MSC:

- [82D75](#) Nuclear reactor theory; neutron transport
- [82-08](#) Computational methods (statistical mechanics) (MSC2010)
- [82-04](#) Software, source code, etc. for problems pertaining to statistical mechanics
- [65N55](#) Multigrid methods; domain decomposition for boundary value problems involving PDEs
- [65F10](#) Iterative numerical methods for linear systems
- [65N30](#) Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs

Cited in **3** Documents

Keywords:

simplified transport equations; domain decomposition; Schwarz iterative algorithm; Robin interface conditions; MINOS solver; APOLLO3[®] code

Software:

APOLLO3; MINOS

Full Text: [DOI](#)

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