Variable Eddington Factor for Mixed Hybrid Finite Element/Linear Discontinuous Galerkin Source Iteration

S. Olivier, J.E. Morel

Department of Nuclear Engineering Texas A&M University College Station, TX 77843

Abstract

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Keywords

 P_N equations, S_N equations, asymptotic decay lengths.

Running Head

Asymptotic S_{N+1} Equations

Corresponding Author

Jim E. Morel, Phone: (979)845-6072, FAX: (979)845-6075, E-mail: morel@tamu.edu.

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References

- [1] Pomraning, G. C. (1964). A generalized P_N approximation for neutron transport problems. *Nukleonik* 6:348.
- [2] Ganguley, K., Allen, E. J., Coskun, E., and Nielsen, S. (1993). On the discrete-ordinates method via Case's solution, *J. Comp. Phys.*, 107:66.
- [3] Morel, J. E. (1989). A hybrid collocation-Galerkin- S_N method for solving the Boltzmann transport equation, Nucl. Sci. and Eng., 101:72.
- [4] Digital Library of Mathematical Functions.2011-08-29. National Institute of Standards and Technology from URL http://dlmf.nist.gov/14.7E11.
- [5] Larsen, E. W., McGhee, J. M., Morel, J. E. (1992). The simplified P_N equations as an asymptotic limit of the transport equation. *Trans. Am. Nucl. Soc.* 66:231.

- [6] Larsen, E. W., Morel, J. E., McGhee, J. M. (1996). Asymptotic derivation of the multigroup P_1 and simplified P_N equations with anisotropic scattering. *Nucl. Sci. Eng.* 123:328.
- [7] Larsen, E. W., Asymptotic diffusion and simplified Pn approximations for diffusive and deep penetration problems. part 1: theory. (2011) TTSP 39:110.