Aregba-Driollet, Denise; **Natalini, Roberto**

Discrete kinetic schemes for multidimensional systems of conservation laws. (English)

Zbl 0964.65096
SIAM J. Numer. Anal. 37, No. 6, 1973-2004 (2000).

The authors propose a family of difference schemes for multidimensional systems of conservation laws. These schemes generalize the method of *P. L. Bhatnagar, E. P. Gross*, and *M. Krook* [Phys. Review, II. Ser. 94, 511-525 (1954; Zbl 0055.23609)], which uses ideas from kinetic theory to solve the equations of gas dynamics. Stability conditions are derived, and convergence is proved for scalar problems.

Reviewer: Gerald W.Hedstrom (Pleasanton)

MSC:

65M06	Finite difference methods for initial value and initial-boundary value problems involving PDEs	Cited in **49** Documents
65M12	Stability and convergence of numerical methods for initial value and initial-boundary value problems involving PDEs	
35L65	Hyperbolic conservation laws	

Keywords:

difference schemes; kinetic schemes; multidimensional systems of conservation laws; stability; convergence

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