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Kruzhkov's estimates for scalar conservation laws revisited. (English) Zbl 0955.65069
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Summary: We give a synthetic statement of Kruzhkov-type estimates for multidimensional scalar conservation laws [cf. *S. N. Kruzhkov*, Mat. Sb., N. Ser. 81(123), 228-255 (1970; Zbl 0202.11203)]. We apply it to obtain various estimates for different approximation problems. In particular, we recover for a model equation the rate of convergence in $h^{1/4}$ known for finite volume methods on unstructured grids.

MSC:

- 65M15 Error bounds for initial value and initial-boundary value problems involving PDEs
- 65M06 Finite difference methods for initial value and initial-boundary value problems involving PDEs
- 65M12 Stability and convergence of numerical methods for initial value and initial-boundary value problems involving PDEs
- 35L65 Hyperbolic conservation laws

Cited in **1** Review
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Keywords:

multidimensional scalar conservation laws; error estimates; entropy inequalities; convergence; finite volume methods

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