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Upwind difference approximations for degenerate parabolic convection-diffusion equations with a discontinuous coefficient. (English) Zbl 1014.65073

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The authors analyse approximate solutions generated by an upwind difference scheme of Engquist-Osher type for nonlinear degenerate parabolic convection-diffusion equations where the nonlinear convective flux function has a discontinuous coefficient and the diffusion function is allowed to be strongly degenerate.

Reviewer: [Xavier Antoine \(Toulouse Cedex\)](#)

MSC:

[65M06](#) Finite difference methods for initial value and initial-boundary value problems involving PDEs

Cited in **51** Documents

[65M12](#) Stability and convergence of numerical methods for initial value and initial-boundary value problems involving PDEs

[35K65](#) Degenerate parabolic equations

[35R05](#) PDEs with low regular coefficients and/or low regular data

Keywords:

[degenerate convection-diffusion equation](#); [discontinuous coefficient](#); [weak solution](#); [finite difference scheme](#); [convergence](#); [entropy condition](#)

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