

DIFFERENCE SCHEMES WITH NONUNIFORM MESHES FOR NONLINEAR PARABOLIC SYSTEM

收稿日期 1994-8-30 修回日期 网络版发布日期 接受日期

摘要

关键词

分类号

DIFFERENCE SCHEMES WITH NONUNIFORM MESHES FOR NONLINEAR PARABOLIC SYSTEM

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Abstract The boundary value problem for the nonlinear parabolic system is solved by the finite difference method with nonuniform meshes. The existence and a priori estimates of the discrete vector solutions for the general difference schemes with unequal meshsteps are established by the fixed point technique. The absolute and relative convergence of the discrete vector solution and the absolute and relative stability of the difference scheme are justified by a series of a priori estimates. The analysis of mentioned problems are based on the assumption of heuristic character concerning the existence of the unique smooth solution for the original problem of the nonlinear parabolic system.

Key words

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