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Comparison on the three numerical methods for nonhomogeneous Rosenau-Burgers equation. (Chinese. English summary) Zbl 07404419

Summary: In this paper, we proposed three numerical methods for solving nonhomogeneous Rosenau-Burgers equation. Then we derived the stability and error estimate of the third scheme and proved that the scheme has a unique solution. In the end, the paper compared and summarized the three formats.

MSC:
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
65M15 Error bounds for initial value and initial-boundary value problems involving PDEs

Keywords:
difference scheme; nonhomogeneous Rosenau-Burgers equation; stability; convergence