You, Shujun; Huang, Jianhua

Boundary value problem for the KdV-Burgers equation in a quarter plane. (English)


Summary: In this paper, we consider the initial-boundary value problem for the KdV-Burgers equation on right half-line $\mathbb{R}^+ = [0, +\infty)$. We prove the existence and uniqueness of global smooth solutions to the initial-boundary value problem in the Sobolev space through making a priori integral estimates and the Galerkin method.

MSC:

35Q53 KdV equations (Korteweg-de Vries equations)
35B65 Smoothness and regularity of solutions to PDEs
35A01 Existence problems for PDEs: global existence, local existence, non-existence
35A02 Uniqueness problems for PDEs: global uniqueness, local uniqueness, non-uniqueness
35B45 A priori estimates in context of PDEs

Keywords:
KdV-Burgers equation; initial-boundary value problem; global smooth solution

Full Text: DOI

References:


- Zbl 1392.35268


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.