Finite volume approximations of Burgers evolution equation

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Abstract

Due to the increase interest in modeling using Burgers equation, many numerical algorithms have been developed and analyzed for solving such model. In this work, we study Burgers evolution equation. To make solutions unique, an entropy condition must satisfied as in ([5], [6]). All functions and initial data are sufficiently smooth. Then several numerical approaches as finite volume, finite element, finite differences and simulation have been proved. The results obtained compared with the experimental and numerical results found in the literature specialized in this field are very satisfactory that it is along a regular domain and the sufficiently smooth functions and initial.

Keywords and phrases: *Burgers equation, Finite element methods, Finite volume methods and approximations.*

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