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Solution of Burgers' equation for large Reynolds number using finite elements with moving nodes. (English) [Zbl 0622.76063](#)

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Burgers' equation often arises in the mathematical modelling used to solve problems in fluid dynamics involving turbulence. Numerical difficulties arise in the solution for the case of large Reynolds number. To obtain high accuracy, finite element methods are important. The aim of this paper is to summarize relevant past work and to use a moving node finite element method to obtain a solution of Burgers' equation under certain prescribed conditions. The results for high Reynolds number are compared with accurate results obtained by other authors.

MSC:

76F99 Turbulence

35Q99 Partial differential equations of mathematical physics and other areas of application

Cited in 11 Documents

Keywords:

Burgers' equation; turbulence; accuracy; moving node finite element method

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