

Porsching, T. A.

Error estimates for MAC-like approximations to the linear Navier-Stokes equations. (English)

Zbl 0352.65057

Numer. Math. 29, 291-306 (1978).

For a scan of this review see the [web version](#).

MSC:

65N15 Error bounds for boundary value problems involving PDEs

76D05 Navier-Stokes equations for incompressible viscous fluids

35Q30 Navier-Stokes equations

Cited in 7 Documents

Keywords:

error estimates; Navier-Stokes equations; numerical methods; boundary value problems

Full Text: [DOI](#) [EuDML](#)

References:

- [1] Batchelor, G.K.: An introduction to fluid dynamics. London: Cambridge University Press 1967 · [Zbl 0152.44402](#)
- [2] Berge, C., Ghouila-Houri, A.: Programming, games and transportation networks. London: Methuen 1965.
- [3] Chorin, A.J.: On the convergence of discrete approximations to the navier-stokes equations. Math. Comput.23, 341-353 (1969) · [Zbl 0184.20103](#) · [doi:10.1090/S0025-5718-1969-0242393-5](#)
- [4] Daly, B.J.: Numerical study of the effects of surface tension on interface instability. Phys. Fluids12, 1340-1354 (1969) · [Zbl 0177.56103](#) · [doi:10.1063/1.1692673](#)
- [5] Daly, B.J., Pracht, W.E.: Numerical study of density-current surges. Phys. Fluids11, 15-30 (1968) · [Zbl 0153.57103](#) · [doi:10.1063/1.1691748](#)
- [6] Donovan, L.F.: A numerical solution of unsteady flow in a two-dimensional square cavity. AIAA J.8, 524-529 (1970) · [Zbl 0218.76045](#) · [doi:10.2514/3.5700](#)
- [7] Harlow, F.H., Welch, F.E.: Numerical calculation of time-dependent viscous incompressible flow of fluid with free surface. Phys. Fluids8, 2182-2189 (1965) · [Zbl 1180.76043](#) · [doi:10.1063/1.1761178](#)
- [8] Hirt, C.W.: Heuristic stability theory for finite-difference equations. J. Computational Phys.2, 339-355 (1968) · [Zbl 0187.12101](#) · [doi:10.1016/0021-9991\(68\)90041-7](#)
- [9] Jamet, P., Lascaux, P., Raviart, P.A.: Une methode de resolution numerique des equations de navier-stokes. Numer. Math.16, 93-114 (1970) · [Zbl 0203.48403](#) · [doi:10.1007/BF02308863](#)
- [10] Krzhivitski, A., Ladyzhenskaya, O.A.: A grid method for the navier-stokes equations. Soviet Physics Dokl.11, 212-213 (1966)
- [11] Leray, J.: Etudes de diverses equations integrales non lineaires et de quelques problems que pose l'hydrodynamique. J. Math. Pures Appl., 9 Serie,12, 1-82 (1933) · [Zbl 0006.16702](#)
- [12] Prandtl, L., Tietjens, O.G.: Applied hydro- and aeromechanics. New York: McGraw-Hill 1934 · [Zbl 0078.39604](#)
- [13] Roache, P.J.: Computational fluid dynamics. Albuquerque: Hermosa 1976 · [Zbl 0251.76002](#)
- [14] Roache, P.J.: On artificial viscosity. J. Computational Phys.10, 169-187 (1972) · [Zbl 0247.76035](#) · [doi:10.1016/0021-9991\(72\)90058-7](#)
- [15] Richtmyer, R.D., Morton, K.W.: Difference methods for initial value problems, 2nd ed. New York: Interscience 1967 · [Zbl 0155.47502](#)
- [16] Temam, R.: Une methode d'approximation de la solution des equations de navier-stokes. Bull. Soc. Math. France96, 115-152 (1968) · [Zbl 0181.18903](#)
- [17] Temam, R.: On the theory and numerical analysis of the navier-stokes equations. Univ. of Maryland, Lecture Note No. 9, 1973 · [Zbl 0273.35002](#)
- [18] Welch, J.E., Harlow, F.H., Shannon, J.P., Daly, B.J.: The MAC method. LASL Report No. LA-3425, Los Alamos Scientific Laboratory, Los Alamos, N. Mexico, 1966

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.