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**A spectral-Tau approximation for the Stokes and Navier-Stokes equations.** (English)

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RAIRO, Modélisation Math. Anal. Numér. 22, No. 4, 677-693 (1988).

A new spectral-Tau formulation for the Stokes problem is introduced and analyzed. The pressure approximation of the resulting system does not contain any spurious modes. Moreover, the scheme is easy to implement numerically. The spectral convergence of the scheme is proved and is affirmed by numerical results.

**MSC:**

- 76D05 Navier-Stokes equations for incompressible viscous fluids
- 76D07 Stokes and related (Oseen, etc.) flows
- 65N35 Spectral, collocation and related methods for boundary value problems involving PDEs

Cited in 5 Documents

**Keywords:**

spectral-Tau formulation; Stokes problem; pressure approximation; spurious modes; spectral convergence

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