

**Canuto, Claudio; Quarteroni, Alfio**

**Variational methods in the theoretical analysis of spectral approximations.** (English)

Zbl 0539.65080

Spectral methods for partial differential equations, Proc. Symp., NASA Langley Res. Cent. 1982, 55-78 (1984).

Summary: [For the entire collection see [Zbl 0534.00017](#).]

Stability and optimal rates of convergence for Chebyshev pseudo-spectral approximations are given. We consider elliptic problems with nonconstant coefficients and Dirichlet or Neumann-type boundary conditions. They are set into a variational form which satisfies the inf-sup conditions of Nečas-Babuška.

**MSC:**

[65N35](#) Spectral, collocation and related methods for boundary value problems involving PDEs

Cited in **18** Documents

[35J25](#) Boundary value problems for second-order elliptic equations

**Keywords:**

[spectral methods](#); [Stability](#); [rates of convergence](#); [Chebyshev pseudo- spectral approximations](#); [variational form](#)