

Linear stability analysis of viscous flow in axisymmetric domain

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Abstract

The linear stability problem of an incompressible viscous flow between two concentric cylinders is investigated. Linearizing the transient behavior around a steady state solution leads to an eigenvalue problem for linearized Navier-Stokes equations. The discrete eigenvalue problem is obtained by the spectral element method. The algorithm is implemented in MATLAB. The developed program serves as a simple tool for numerical experimenting. The applicability of the program is validated through some few test computations.

The full text is presented in the electronic part of proceedings.

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