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Multiplicity of solutions in von Karman flows of viscoelastic fluids. (English) Zbl 0708.76009
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Summary: We extend the numerical investigation of the classical linearly viscous fluids for disk flows to the case of a non-Newtonian fluid of the rate type, namely the Oldroyd-B fluid. We show that the solutions exhibit limit points. We also calculate fold curves in two parameters, keeping the Ekman number and the rotation ratio constant, and display solutions on either side of the turning point. The numerical formulation includes Galerkin's method with B-spline test functions and continuation.

MSC:

76A10 Viscoelastic fluids

Cited in **6** Documents

Keywords:

classical linearly viscous fluids; non-Newtonian fluid; Oldroyd-B fluid

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