

Vladimirov, V. A.; Il'in, K. I.**Stability of a solid in a vortex flow of an ideal liquid.** (English. Russian original) [Zbl 1031.76529](#)
[Prikl. Mekh. Tekh. Fiz. 35, No. 1, 83-91 \(1994\)](#); translation in [J. Appl. Mech. Tech. Phys. 35, No. 1, 84-92 \(1994\)](#).

In the article under review, the two-dimensional problem is considered for stability of a solid in a steady-state vortex flow of an ideal incompressible liquid. A preservation functional is constructed which has a critical point in solving the steady-state problem of a flow round a body. Adequate stability conditions are obtained by the Arnold method for linear approximation. The general result is used for studying flow stability with circular flow lines in the case when the inner cylinder may move under the action of the forces of pressure from the direction of the liquid.

Reviewer: N.I.Alexandrova (Novosibirsk)

MSC:[76E99](#) Hydrodynamic stability[76M30](#) Variational methods applied to problems in fluid mechanicsCited in **1** Document**Keywords:**[incompressible uniform fluid](#); [sufficient conditions for stability](#); [stability of a flow between cylinders](#)