

Koch, Herbert

Transport and instability for perfect fluids. (English) [Zbl 1006.76008](#)
Math. Ann. 323, No. 3, 491-523 (2002).

Summary: Incompressible perfect fluids are described by Euler equations. We provide a new proof of well-posedness for velocities in $C^{1,\alpha}$, and give linear and nonlinear instability results using transport techniques. The results have an important consequence: the topology of $C^{1,\alpha}$ is too fine for interesting questions about large time behavior.

Reviewer: [Reviewer \(Berlin\)](#)

MSC:

[76B03](#) Existence, uniqueness, and regularity theory for incompressible inviscid fluids
[76E30](#) Nonlinear effects in hydrodynamic stability
[35Q30](#) Navier-Stokes equations

Cited in **12** Documents

Keywords:

incompressible perfect fluids; Euler equations; well-posedness; nonlinear instability; transport techniques; large time behavior; linear stability

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