

Abstract Submitted
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Experiments in the stability of basic two-dimensional flows¹ PAUL W. FONTANA, EDWARD C. TITMUS, ADRIAN KIRN, Seattle University — Two-dimensional flows have different stability behavior than their three-dimensional counterparts due to enstrophy conservation, but they have not been studied as thoroughly in experiments. We present data from quasi-two-dimensional flow experiments suggesting that basic shear flows show instability not predicted by theory, while square-vortex-lattice flows are more stable than predicted by linear theory. To allow proper quantitative comparisons between experiments and theory we have developed new techniques for quantifying and distinguishing kinematic viscosity and Ekman friction.

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Paul W. Fontana
Seattle University

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