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**Experimental measurements in plane Couette-Poiseuille flow: dynamics of the large- and small-scale flow.** (English) [Zbl 07315236](#)

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Summary: In this paper we experimentally study the transitional range of Reynolds numbers in plane Couette-Poiseuille flow, focusing our attention on the localized turbulent structures triggered by a strong impulsive jet and the large-scale flow generated around these structures. We present a detailed investigation of the large-scale flow and show how its amplitude depends on Reynolds number and amplitude perturbation. In addition, we characterize the initial dynamics of the localized turbulent spot, which includes the coupling between the small and large scales, as well as the dependence of the advection speed on the large-scale flow generated around the spot. Finally, we provide the first experimental measurements of the large-scale flow around an oblique turbulent band.

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