
From Stratified gravity currents to a practical hydraulic problem.

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Abstract

As an aside in his JFM 1968 article on gravity currents, Brook Benjamin had established the properties of a liquid emptying from a horizontal tube and of the upstream propagation with respect to that liquid of a semi infinite pocket or bubble of air. It turns out that in the hydraulics of pipe flow under gravity a phenomenon is omnipresent which is closely related to Benjamin's idealized model. The latter also informs the mechanics of siphons. Useful but little known practical consequences of this fact have now been exploited.

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