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Steady streaming in standing waves JEAN RAJCHENBACH, ENRICA SAGGESE, Laboratoire de Physique de la Matière Condensée, CNRS UMR 7336, Université de Nice - Sophia Antipolis, DIDIER CLAMOND, Laboratoire J. A. Dieudonné, CNRS UMR 7351, Universit'e de Nice - Sophia Antipolis — We report the existence of recirculating eddies existing in the bulk of a liquid under the action of standing surface waves. This phenomenon results from the combined action of the nonlinearity and viscosity. The period of these secondary flows can be, say, one hundred times that of the wave, depending on the amplitude. Our experimental results reveal strong disagrements with theoretical predictions devised hitherto. In order to account for our data, we propose a new mechanism playing a major role in the formation of these rolls.

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