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Drift and symmetry breaking in Faraday waves NICOLAS PERINET, PMMH-ESPCI-CNRS-LIMSI-UPMC, DAMIR JURIC, LIMSI-CNRS, LAURETTE TUCKERMAN, PMMH-ESPCI-CNRS, EDGAR KNOBLOCH, UC Berkeley — Faraday waves which break reflection symmetry and manifest horizontal flux have been investigated experimentally and theoretically by Fauve, Douady, Thual and by Knobloch, Martel, Vega. We perform the first numerical calculations of such states by means of fully-resolved simulations of the Navier-Stokes equations in superposed layers of air and water, coupled via a front-tracking algorithm for the interface. We find that these states are bistable with flux-free reflection-symmetric Faraday waves.

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