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Vladimir Yushutin* (yushutin@math.uh.edu). *Stability of Euler flows on closed surfaces with positive genus.*

Incompressible flows of an ideal two-dimensional fluid on a closed, orientable surface with positive genus are studied. Linear stability of the harmonic, i.e. irrotational and incompressible, solutions to the Euler equations is shown using the Hodge-Helmholtz decomposition. We also demonstrate that any surface Euler flow is stable with respect to small harmonic velocity perturbations. (Received January 22, 2019)