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University Avenue, Chicago, IL 60637. *Local Existence and Uniqueness for the Hydrostatic Euler Equations on a Bounded Domain.*

We address the question of well-posedness in spaces of analytic functions for the Cauchy problem for the hydrostatic incompressible Euler equations (inviscid primitive equations) on domains with boundary. By a suitable extension of the Cauchy-Kowalewski theorem we construct a locally in time, unique, real-analytic solution and give an explicit rate of decay of the radius of real-analyticity. (Received August 16, 2010)