1051-35-187 **Igor Kukavica** (`kukavica@usc.edu`), University of Southern California, 3620 South Vermont Ave., Los Angeles, CA 90089, and **Vlad Vicol*** (`vicol@usc.edu`), University of Southern California, 3620 South Vermont Ave., Los Angeles, CA 90089. *Analyticity and Gevrey-class regularity up to the boundary for the Euler equations.*

We address the analyticity and Gevrey-class regularity of solutions to the 3D Euler equations on the half-space and on a bounded domain. We give lower bounds for the rate of decay of the real-analyticity radius of the solution $u(t)$ in terms of $\exp \int_0^t \|\nabla u(s)\|_{L^\infty} ds$, improving the previously known results. In the case of the bounded domain, by following particle trajectories, we prove the persistence of the non-analytic Gevrey-class regularity, with an explicit rate of decay of the Gevrey-class radius. (Received August 24, 2009)