1081-35-267 **Roman Shvydkoy*** (shvydkoy@math.uic.edu), 851 S Morgan St, M/C 249, Chicago, IL 60607, and **Dongho Chae**. *On formation of a locally self-similar collapse in the incompressible Euler equations.*

We examine the question a locally self-similar blow-up scenario in the incompressible Euler equations. A new treatment of the local energy equality is used to find a number of verifiable Lp-criteria based on velocity or vorticity. Homogeneous profiles are excluded on all cases except those that allow explicit solutions. The results are compared to numerically observed self- similar formations of vortex dodecapoles indicating the necessity of non-smoothed modeling. (Received February 13, 2012)