1107-35-286 **Philip Isett***, isett@math.mit.edu. *Regularity in time along the coarse scale flow for the incompressible Euler equations.*

A remarkable feature of known, nonstationary solutions to incompressible Euler is the phenomenon that fine scale velocity fluctuations are carried along the coarse scale flow of the solution. We will discuss how this phenomenon is captured in the proofs of several time regularity results that hold for incompressible Euler flows (possibly with low regularity). Among these results are a proof of the smoothness of trajectories in a regime just below the threshold for well-posedness, and improved time regularity results for the pressure and kinetic energy profile. We will also discuss a strengthening of Onsager's conjecture proposed in the work, which offers an explanation as to why the failure of anomalous dissipation for Euler flows with spatial regularity less than 1/3 should be generic. (Received January 17, 2015)