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**Alexey Cheskidov\*** ([acheskid@math.uic.edu](mailto:acheskid@math.uic.edu)), 322 SEO, 851 S. Morgan Street, Chicago, IL 60607. *A unified approach to regularity problems for the 3D Navier-Stokes and Euler equations: the use of Kolmogorov's dissipation range.*

Motivated by Kolmogorov's theory of turbulence we present a unified approach to the regularity problems for the 3D Navier-Stokes and Euler equations. In particular, we present a new regularity criterion in terms of the intermittency parameter representing the dimension of a dissipation set. This is a joint work with R. Shvydkoy. (Received December 13, 2011)