1015-35-298 **Igor Kukavica***, Department of Mathematics, University of Southern California, Los Angeles, CA 90089, and **Mohammed Ziane**, Department of Mathematics, University of Southern California, Los Angeles, CA 90089. *Sufficient conditions for regularity of solutions of the Navier-Stokes equations.*

We consider sufficient conditions for regularity of weak solutions of the Navier-Stokes equation. By a result of Neustupa and Panel, the Leray-Hopf weak solutions are regular provided a single component of the velocity is bounded. In this talk we will survey existing and present new results on one component and one direction regularity. Also, we will discuss results on global existence of solutions in thin domains. (Received February 07, 2006)