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Zoran Grujic* (zg7c@virginia.edu), Department of Mathematics, Kerchof Hall, University of Virginia, Charlottesville, VA 22904. *Localization of vortex-stretching in the 3D NSE.*

Vortex-stretching is localized to an arbitrarily small parabolic cylinder. This yields a complete localization of the geometric conditions for the regularity involving coherence of the vorticity direction as well as some local analytic conditions for preventing the formation of singularities. (Received February 20, 2009)