1032-76-43 **Milton C. Lopes Filho**, UniCamp, Campinas, Brazil, **Anna L. Mazzucato***, Department of Mathematics, Pennsylvania State University, McAllister Building, University Park, PA 16802, and **Helena J. Nussenzveig Lopes**, UniCamp, Campinas, Brazil. *Enstrophy dissipation in 2D incompressible fluids.*

We consider enstrophy dissipation in 2D incompressible, turbulent flows. Enstrophy is one half the integral of vorticity squared, and a fundamental quantity in 2D turbulence. We prove rigorously that there is no dissipation as long as the initial enstrophy is finite, and provide examples of dissipative flows when the initial enstrophy is infinite. (Received July 27, 2007)