

**Meeting:** 1004, Bowling Green, Kentucky, SS 13A, Special Session on Nonlinear Analysis and Applied Mathematics

1004-76-77            **David M Ambrose\*** ([ambrose@cims.nyu.edu](mailto:ambrose@cims.nyu.edu)), 251 Mercer St., New York, NY 10003. *Vortex Sheets in 3D fluids*. Preliminary report.

In joint work with Nader Masmoudi and Jalal Shatah, I have recently found energy estimates for vortex sheets with surface tension in 3D fluids. The energy estimates lead to a proof of well-posedness. The proof is along the same lines as my proof of well-posedness of vortex sheets with surface tension in 2D fluids, but more care needs to be taken since there is no direct analogue of arclength in the present setting. (Received January 17, 2005)