1051-76-238 **Milton C. Lopes Filho** (mlopes@ime.unicamp.br), Departamento de Matematica, IMECC, Universidade Estadual de Campinas – UNICAMP, Caixa Postal 6065, Campinas, SP 13083-970, Brazil, **Helena J. Nussenzveig Lopes*** (hlopes@ime.unicamp.br), Departamento de Matematica, IMECC, Universidade Estadual de Campinas – UNICAMP, Caixa Postal 6065, Campinas, SP 13083-970, Brazil, and **Steven Schochet** (schochet@post.tau.ac.il), School of Mathematical Sciences, Tel Aviv University, Ramat Aviv, 69978 Tel Aviv, Israel. *On the equivalence of the Birkhoff-Rott and Euler descriptions of vortex sheet evolution.*

We consider the evolution of a vortex sheet in two-dimensional incompressible and inviscid fluid flow, i.e., a curve on which vorticity is concentrated. This is a classical example of interface dynamics.

The vortex sheet evolution problem has been addressed, in the literature, by either explicitly propagating the interface, using the Birkhoff-Rott equations, or by embedding it in a weak solution of the Euler equations. In this talk we present a sharp criterion for the equivalence of these two descriptions of vortex sheet dynamics. (Received August 25, 2009)