

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

1004-35-178 **James Colliander** and **Sarah Raynor*** (raynorsg@wfu.edu), Department of Mathematics,
Wake Forest University, P.O.Box 7388, Winston-Salem, NC 27109, and **Catherine Sulem** and **J.
Douglas Wright**. *Blowup Solutions of the Semilinear Schrödinger Equation.*

We consider solutions of the cubic semilinear Schrödinger equation in two dimensions. This equation is known to have solutions which blow up in finite time. It is also known due to energy conservation that if such solutions are in the Sobolev space H^1 they concentrate at least a finite amount of mass at the point of blowup. We prove that there exists an $s_0 < 1$ such that for initial data in H^s , $s_0 < s < 1$, even though the energy is not finite, blowup solutions still concentrate at least a known amount of mass at the point of blowup. (Received January 24, 2005)