1135-81-1007 **Jessica R Taylor*** (jtaylor5@ucmerced.edu), 5200 N. Lake Road, Merced, CA 95343, and **Boaz Ilan** and **Kevin A Mitchell**. *Enhanced fractal dynamics of a BEC induced by dipolar interactions.* Preliminary report.

Bose-Einstein condensation (BEC) is arguably one of the most fundamental quantum mechanical structures in condensed matter physics. Of current interest is the ability to stabilize a BEC. Earlier studies show that various configurations of the Nonlinear Schrödinger equation effect the flux / escape rate of a BEC. We extend these studies to the defocusing NLS equation with dipolar interactions. Here, we consider the effects of a attractive dipolar potential on the fractal escape-rates of a BEC with repulsive short-range atom-atom interactions relative to a dipolar ground state initial condition. We conclude that the addition of dipolar effects reduces the dispersion of the system and arrests collapse of representative wavefunction. (Received September 18, 2017)