1173-35-76 **Svetlana Roudenko** (sroudenko@fiu.edu), **Zhongming Wang*** (zwang6@fiu.edu) and **Kai Yang** (yangk@fiu.edu). *Dynamics of solutions in the generalized Benjamin-Ono equation: A numerical study.*

We consider the generalized Benjamin-Ono (gBO) equation on the real line, $u_t+\partial_x(-\mathcal{H}u_x+\frac{1}{m}u^m)=0, x\in\mathbb{R}, m=2,3,4,5$, and perform numerical study of its solutions. We first compute the ground state solution to $-Q-\mathcal{H}Q'+\frac{1}{m}Q^m=0$ via Petviashvili's iteration method. We then investigate the behavior of solutions in the Benjamin-Ono ($m=2$) equation for initial data with different decay rates and show decoupling of the solution into a soliton and radiation, thus, providing confirmation to the soliton resolution conjecture in that equation. In the mBO equation ($m=3$), which is L^2-critical, we investigate solutions close to the ground state mass, and, in particular, we observe the formation of stable blow-up above it. Finally, we focus on the L^2-supercritical gBO equation with $m=4,5$. In that case we investigate the global vs finite time existence of solutions, and give numerical confirmation for the dichotomy conjecture, in particular, exhibiting blow-up phenomena in the supercritical setting. (Received September 15, 2021)