Mathematics, Statistics, and Computer Science   **@ UIC**

Analysis and Applied Mathematics Seminar

Orbital Stability of Vortex Solitary Waves for Dispersive Equations

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Abstract: Vortex type solitons exhibit remarkable and ubiquitous phenomena that arise in modeling quantum optics, plasma, superfluids and pseudo-relativistic boson stars. I will discuss orbital stability and instability by providing certain sharp conditions for the governing equations including magnetic and fractional NLS with unbounded potentials. This study is motivated by related open question in the area in oder to understand the asymptotic behavior and rates of wave-collapse for the solutions. Some numerical simulations are presented as well.

Monday, April 2 at 4:00 PM in SEO 636