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

Analysis and Applied Mathematics Seminar

Invariant manifolds for supercritical KDV equation

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Abstract: Consider generalized KDV equations with a power non-linearity (u^p)_x. These KDV equations have solitary traveling waves, which are linearly unstable when p>5 (supercritical case). Jointly with Jiayin Jin and Chongchun Zeng, we constructed invariant manifolds (stable, unstable and center) near the orbit of the unstable traveling waves in the energy space. In particular, the local uniqueness and orbital stability of the center manifold is obtained. These invariant manifolds give a complete description of the dynamics near unstable traveling waves.

Monday, March 27 at 4:00 PM in SEO 636