



Speaker: Peter Topalov
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Tuesday, May 6, 2008
11:00 AM
258 Hurley Hall

Title: Solutions of mKdV in classes of functions unbounded at infinity

Abstract:

Using a geometric approach we prove global existence and uniqueness for solutions of the initial value problem for mKdV (modified (defocusing) Korteweg de Vries equation) in classes of smooth functions which can be unbounded at infinity, and may even include functions which tend to infinity with respect to the space variable. The invariance of the spectrum and the unitary type of the Schrödinger operator under the KdV flow and the invariance of the spectrum and the unitary type of the impedance operator under the mKdV flow for potentials in these classes is proved.