

1036-34-169

A. David Trubatch* (david.trubatch@montclair.edu), Department of Mathematical Sciences, Montclair State University, Montclair, NJ 07043. *Dynamics of KdV discretizations*. Preliminary report.

The recurrence observed by Zabusky and Kruskal in their simulations of the KdV equation have been attributed to the solitons and integrability of KdV. However, more recent simulations suggest that this is not be the case. The persistence of recurrence depends on the choice of discretization, as well as the manifestation of nonlinear instabilities, strongly depends on the choice of discretization. Moreover, Even in the absence of recurrence, thermalization is not achieved. (Received January 21, 2008)