Solitons and Tsunamis

Adrian Constantin^{a,b} and David Henry^{a,c}

^a School of Mathematics, Trinity College, Dublin 2, Ireland

^b Current address: Universität Wien, Fakultät für Mathematik, Nordbergstraße 15, 1090 Wien, Austria
^c Current address: School of Mathematical Sciences, Dublin City University, Glasnevin, Dublin 9, Ireland

Reprint requests to A. C. or D. H.; E-mail: adrian@maths.tcd.ie or hendavid@maths.tcd.ie

Z. Naturforsch. **64a**, 65 – 68 (2009); received June 14, 2008

We discuss the relevance of soliton theory to the modeling of tsunami waves. Our analysis shows that for the two most devastating tsunamis of the last century, the 2004 Bay of Bengal and the 1960 Chile tsunami, the propagation distances were too short for soliton dynamics to apply. Thus the shallow water theory is appropriate for the modelling of tsunamis.

Key words: Tsunami; Soliton; Nonlinear Waves. *PACS numbers:* 47.35.Fg, 91.30.Nw, *92.10.hl