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# Extreme Waves on Finite Back Ground

Andonowati (1,2,3), E. van Groesen (1,2) & N. Karjanto (1)

(1) University of Twente, Netherlands

(2) LabMath-Indonesia, Bandung Indonesia

(3) Institut Teknologi Bandung, Indonesia

A background wave field may generate extreme waves by nonlinear self-focussing. We formulate a new Ansatz for waves on Finite Background (FB) by introducing displaced phase-amplitude variables with respect to a background of plane waves.

In the special case that the displaced phase is autonomous, the spatial evolution in the NLS-model leads to the three known special classes of solitons on FB, namely those of Peregrine, Ma, and Akhmediev e.a.. We will discuss the last one in detail and describe various aspects of the full nonlinear modulational instability that develops during the downstream propagation.

Remarks about applications in a hydrodynamic laboratory will be made.