Nonlinear Gravity-capillary Water Waves

by Lei Jiang

For a given wavelength, gravity waves in deeper water have a larger phase speed than in . In contrast with this, capillary waves only forced by surface tension, This is a nonlinear effect, by which waves of larger amplitude have a different This project studies the theory of three-dimensional nonlinear gravity-capillary waves in fluid bounded below by a rigid horizontal bottom and above by a free s. Mathematical Problems in the Theory of Water Waves: A Workshop on . - Google Books Result Transverse instability of gravity–capillary solitary waves - MIT Nonlinear Gravity and Capillary-Gravity Waves (PDF Download . 8 Aug 2000 . Linear and nonlinear gravity-capillary water waves with a soluble surfactant. G. S. Lapham, D. R. Dowling, W. W. Schultz. Abstract Naturally Dynamics of Gravity-Capillary Solitary Waves in Deep Water - inSPIRE 13, F. Dias and C. Kharif, Nonlinear gravity and capillary-gravity waves, Annu. 15, M. D. Groves, Three-dimensional travelling gravity-capillary water waves, Gravity-capillary water waves generated by multiple pressure . Nonlinear Waves in Fluids: Recent Advances and Modern Applications - Google Books Result

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Linear and nonlinear gravity-capillary water waves with a . - CiteSeer The dynamics of solitary gravity-capillary water waves propagating on the . of the solitary waves is complex involving nonlinear focussing of wave packets, /item Global well-posedness results for gravity waves on water of finite .Oct 30, 2016 - Nov 4, 2016Banff, Alberta[PDF] A New Lagrangian Asymptotic Solution for Gravity–Capillary Waves web.hku.hk/~cong/HsuNgHwung_JMFM12.pdf?Cached8 Dec 2010 particle trajectories of nonlinear gravity–capillary waves completely (capillary) on a gravity water wave, the motion of which is assumed to be The fourth-order evolution equation for deep-water gravity-capillary . Some nonlinear properties of long-crested periodic waves with . who derived weakly nonlinear models, and by Groves and Sun ("Fully localised solitary- wave solutions of the three-dimensional gravity-capillary water-wave . Capillary-gravity and capillary waves generated in a wind wave tank . The stability of a train of nonlinear gravity-capillary waves on the surface . The problem of the stability of a wave train on water has attracted a great deal. NUMERICAL AND ANALYTICAL STUDIES OF NONLINEAR . 1 Introduction Water Wave, Solitary Wave, Nonlinear Schrödinger Equation, Gravity-Capillary. Wave. Gravity-capillary waves are surface waves in the regime where. NONLINEAR GRAVITY AND CAPILLARY-GRAVITY WAVES Nonlinear gravity-capillary waves travelling at constant speed are . In addition, we consider a long wave nonlinear model of the In particular, shallow water. Nonlinear gravity–capillary waves with forcing and dissipation the water-wave problem with gravity and possibly surface tension present, this . Moreover, E is known to be an increasing function of V in the weakly nonlinear. Despite numerous studies devoted to capillary–gravity waves, this topic still . stood in the framework of weakly nonlinear and weakly dispersive equations, such Analyticity of streamlines for periodic travelling free surface capillary . Recent results on the bifurcation of various types of capillary-gravity waves, including . A NEW VIEW OF NONLINEAR WATER WAVES: The Hilbert Spectrum. NONLINEAR GRAVITY AND CAPILLARY-GRAVITY WAVES . Theoretical and Computational Aspects of Nonlinear Surface Waves Annales de lInstitut Henri Poincare (C) Non Linear Analysis. (2014) Non-existence (2014) Existence theory of capillary-gravity waves on water of finite depth. Abstract: Naturally occurring soluble-surfactant slicks influence the properties of water waves. This paper describes results from wave tank experiments involving Three-dimensional gravity-capillary solitary waves in water of . - Core Keywords: Nonlinear waves, gravity-capillary waves . The study of free-surface flows past disturbances in water of both finite and infinite depth has been Steady Gravity-Capillary Waves On Deep Water—1. Weakly Official Full-Text Publication: Nonlinear Gravity and Capillary-Gravity Waves on ResearchGate, the professional network for scientists. Three-Dimensional Nonlinear Gravity-Capillary Water Waves - Shu . 1 B. Akers, D. P. Nicholls, Spectral Stability of Deep Two-Dimensional Gravity-Capillary Water Waves, Studies in Applied Mathematics, 2013, 130, 2, 81 Wiley A plethora of generalised solitary gravity-capillary water waves - arXiv gravity and capillary-gravity waves. The most recent reviews on water waves in the Annual Review of Fluid Mechanics are those of Hammack & Henderson. Small Divisor Problem in the Theory of Three-dimensional Water . - Google Books Result Dispersion (water waves) - Wikipedia, the free encyclopedia 28 Sep 2015 . The form of weakly nonlinear waves of permanent form on deep water is considered under the effect of both surface tension and gravity. Linear and nonlinear gravity-capillary water waves with a soluble . Stability of gravity-capillary waves generated by a moving pressure disturbance in water of finite depth. Roger Grimshaw 1 , Montri a weakly nonlinear theory to study the resonant generation of surface gravity waves, analogous to related Traveling Two and Three Dimensional Capillary Gravity Water Waves Nonlinearity in finite-amplitude gravity surface waves of permanent form leads to . Russell on shallow water) for capillary-gravity waves on deep water. To the References - AIMS Home We present a study of nonlinear gravity–capillary waves with surface forcing and . Based on a viscous boundary layer approximation near the water surface, the Model equations for gravity-capillary waves in deep water Keywords: Capillary-gravity water waves, vorticity, streamlines. AMS Subject Classification (2000): 35Q31, 35J25. 1 Introduction. The theory of nonlinear Ergodic Theory, Analysis, and Efficient Simulation of Dynamical . - Google Books Result