Publications, Preprints and Theses

Wolf-Patrick Düll

Manuscripts Submitted for Publication

[1] W.-P. Düll, B. Hilder, G. Schneider. Analysis of the embedded cell method in 2D for the numerical homogenization of metal-ceramic composite materials. Submitted to *European J. Appl. Math.*, 2016, parts of arXiv:1609.07644

[2] W.-P. Düll, B. Hilder, G. Schneider. Analysis of the embedded cell method in 1D for the numerical homogenization of metal-ceramic composite materials. Submitted to *J. Appl. Anal.*, 2016, parts of arXiv:1609.07644

[3] W.-P. Düll, M. Heß. Existence of long time solutions and validity of the Nonlinear Schrödinger approximation for a quasilinear dispersive equation. Submitted to *J. Differential Equations*, 2016, arXiv:1605.08704

Articles in Refereed Journals

[4] W.-P. Düll. On the mathematical description of time-dependent surface water waves. *Jahresber. Dtsch. Math.-Ver.*, in press, 2017, arXiv:1612.06242v2

[5] R. Bauer, W.-P. Düll, G. Schneider. The KdV, the Burgers, and the Whitham limit for a spatially periodic Boussinesq model. *Proc. Roy. Soc. Edinburgh Sect. A*, in press, 2017, arXiv:1608.05632v2

[6] W.-P. Düll. Justification of the Nonlinear Schrödinger approximation for a quasilinear Klein-Gordon equation. *Comm. Math. Phys.* **355** (2017), no. 3, 1189-1207.

[7] W.-P. Düll, K. Sanei Kashani, G. Schneider. The validity of Whitham's approximation for a Klein-Gordon-Boussinesq model. *SIAM J. Math. Anal.* **48** (2016), no. 6, 4311-4334.

[8] W.-P. Düll, K. Sanei Kashani, G. Schneider, D. Zimmermann. Attractivity of the Ginzburg-Landau mode distribution for a pattern forming system with marginally stable long modes. *J. Differential Equations* **261** (2016), no.1, 319-339.

[9] W.-P. Düll, G. Schneider, C. E. Wayne. Justification of the Nonlinear Schrödinger equation for the evolution of gravity driven 2D surface water waves in a canal of finite depth. *Arch. Ration. Mech. Anal.* **220** (2016), no. 2, 543-602.

[10] W.-P. Düll, A. Hermann, G. Schneider, D. Zimmermann. Justification of the 2D NLS equation - Quadratic resonances do not matter in case of analytic initial conditions. *J. Math. Anal. Appl.* **436** (2016), no. 2, 847-867.

[11] M. Chirilus-Bruckner, W.-P. Düll, G. Schneider. NLS approximation of time oscillatory long waves for equations with quasilinear quadratic terms. *Math. Nachr.* **288** (2015), no. 2-3, 158-166.

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[13] M. Chirilus-Bruckner, W.-P. Düll, G. Schneider. Validity of the KdV equation for the modulation of periodic traveling waves in the NLS equation. *J. Math. Anal. Appl.* **414** (2014), no. 1, 166-175.

[14] W.-P. Düll. Validity of the Cahn-Hilliard approximation for modulations of slightly unstable pattern in the real Ginzburg-Landau equation. *Nonlinear Anal. Real World Appl.* **14** (2013), no. 6, 2204-2211.

[15] W.-P. Düll. Validity of the Korteweg-de Vries Approximation for the Two-Dimensional Water Wave Problem in the Arc Length Formulation. *Comm. Pure Appl. Math.* **65** (2012), no. 3, 381-429.

[16] W.-P. Düll. A waiting time phenomenon for modulations of pattern in reaction-diffusion systems. *Z. Angew. Math. Phys.* **63** (2012), no. 1, 1-23.

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[19] W.-P. Düll, G. Schneider. A waiting time phenomenon in pattern forming systems. *SIAM J. Math. Anal.* **41** (2009), no. 1, 415-433.

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[21] W.-P. Düll, G. Schneider. Justification of the nonlinear Schrödinger equation for a resonant Boussinesq model. *Indiana Univ. Math. J.* **55** (2006), no. 6, 1813-1834.

[22] W.-P. Düll, G. Schneider. Validity of the resonant four wave interaction system in a model for surface water waves on an infinite deep sea. *Nonlinear Anal. Real World Appl.* **7** (2006), no. 5, 1243-1254.

[23] W.-P. Düll. Some qualitative properties of solutions to a pseudoparabolic equation modeling solvent uptake in polymeric solids. *Comm. Partial Differential Equations* **31** (2006), no. 7-9, 1117-1138.

Proceedings

[24] W.-P. Düll. Validity of the KdV and the NLS approximation of the water wave problem. *Oberwolfach Report* **12** (2015), no. 2, 1041-1044.

Theses

[25] W.-P. Düll. Justification of Approximation Equations for Pattern Forming Systems and for Water Waves. Habilitationsschrift (cumulative, contains [15]-[22]), Universität Stuttgart, 2011.

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