Record of Publications
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I. Books.

1. *Distribution-Valued Analytic Functions – Theory and Applications* (joint work with N. Ortner), tredition, Hamburg 2013, ISBN: 978-3-8491-1968-3, ix + 133 pp.; MR3468846.

2. *Fundamental Solutions of Linear Partial Differential Operators. Theory and Practice* (joint work with N. Ortner), Springer 2015, ISBN: 978-3-319-20139-9, xii + 398 pp.; MR 3379898. (doi: 10.1007/978-3-319-20140-5)

II. Articles in journals.

1. *Die Durchbiegung der gelenkig gelagerten Viertelkreisplatte* (joint work with R. Naderer), Zeitschrift für angewandte Mathematik und Mechanik (ZAMM) **62** (1982) 710–712. (doi: 10.1002/zamm.19820621215)

2. *Sur quelques propriétés des espaces $\mathcal{D}'_{L^p}$ de Laurent Schwartz* (joint work with N. Ortner), Bolletino dell' Unione Matematica Italiana (6) **2-B** (1983) 353–375; MR **84j:** 46068.

3. *Parameterintegration zur Berechnung von Fundamentallösungen*, Dissertationes Mathematicae **230** (1984) 1–50; MR **85j:** 35041.

4. *Die Singularitätenfunktionen der gespannten Platte und der Kreiszylinderschale*, Journal of Applied Mathematics and Physics (ZAMP) **35** (1984) 723–727; MR **86e:** 73038. (doi: 10.1007/BF00952118)

5. *Analytic continuation and convolution of hypersingular higher Hilbert–Riesz kernels* (joint work with J. Horváth and N. Ortner), Journal of Mathematical Analysis and Applications **123** (1987) 429–447; MR **88c:** 46048. (doi: 10.1016/0022-247X(87)90321-0)

6. *Zur Faltung von Distributionen*, Mathematische Annalen **276** (1987) 467–485; MR **88f:** 46086. (doi: 10.1007/BF01450842)

7. *Bernstein-Sato-Polynome und Faltungsgruppen zu Differentialoperatoren*, Zeitschrift für Analysis und ihre Anwendungen **8** (1989) 407–423; MR **91c:** 58129.

8. *Applications of weighted $\mathcal{D}'_{L^p}$-spaces to the convolution of distributions* (joint work with N. Ortner), Bulletin of the Polish Academy of Sciences, Mathematics, **37** (1989) 579–595; MR **92b:** 46058.

9. *The Green's functions of clamped semi-infinite vibrating beams and plates* (joint work with N. Ortner), International Journal of Solids and Structures **26** (1990) 237–249. (doi: 10.1016/0020-7683(90)90054-Y)

10. *Some new fundamental solutions* (joint work with N. Ortner), Mathematical Meth-

ods in the Applied Sciences **12** (1990) 439–461; MR **91e:** 35067. (doi: 10.1002/mma.1670120508)

11. *On the multiplication and convolution of homogeneous distributions*, Revista Colombiana de Matemáticas **24** (1990) 183–197; MR **92c:** 46049.
12. *On the quasiasymptotic expansion of the causal fundamental solution of hyperbolic operators and systems*, Zeitschrift für Analysis und ihre Anwendungen **10** (1991) 159–167; MR **93a:** 46076.
13. *On the fundamental matrix of the system describing linear thermodiffusion in the theory of thermal stresses* (joint work with J. Gawinecki), Bulletin of the Polish Academy of Sciences, Technical Sciences, **39** (1991) 609–615.
14. *On the fundamental solutions of the operators of S. Timoshenko and R. D. Mindlin* (joint work with N. Ortner), Mathematical Methods in the Applied Sciences **15** (1992) 525–535; MR **93k:** 35006. (doi: 10.1002/mma.1670150802)
15. *On the fundamental solution of the operator of dynamic linear thermoelasticity* (joint work with N. Ortner), Journal of Mathematical Analysis and Applications **170** (1992) 524–550; MR **93j:** 73010. (doi: 10.1016/0022-247X(92)90035-C)
16. *On Faddeev–Leverrier's method for the computation of the characteristic polynomial of a matrix and of eigenvectors* (joint work with G. Helmberg und G. Veltkamp), Linear Algebra and its Applications **185** (1993) 219–233; MR **94f:** 65037. (doi: 10.1016/0024-3795(93)90214-9)
17. *Fundamental solutions of hyperbolic differential operators and the Poisson summation formula* (joint work with N. Ortner), Integral Transforms and Special Functions **1** (1993) 183–196. (doi: 10.1080/10652469308819020)
18. *On the fundamental matrix of the system of quasi-static equations of thermodiffusion in a solid body* (joint work with J. Gawinecki und B. Sikorska), Demonstratio Mathematica **26** (1993) 623–632; MR **95a:** 73013.
19. *Fundamental matrix of the system of dynamic linear thermoelasticity,* Journal of Thermal Stresses **17** (1994) 549–565; MR **95g:** 73012. (doi: 10.1080/01495739408946279)
20. *Feynman integral formulae and fundamental solutions of decomposable evolution operators* (joint work with N. Ortner), Труды Математического Института им. Б. А. Стеклова **203** (1994) 365–388; English ed.: Proceedings of the Steklov Institute **203** (1995) 305–322; MR **97a:** 35027.
21. *On the evaluation of one-loop Feynman amplitudes in Euclidean quantum field theory* (joint work with N. Ortner), Annales de l'Institut Henri Poincaré, Physique Théorique, **62** (1995) 81–110; MR **96i:** 81198.
22. *Series, the convergence of which should be interpreted in the sense of L. Schwartz's distributions* (joint work with N. Ortner), SIAM Review **37** (1995) 428–435; MR **97i:** 33003. (doi: 10.1137/1037086)

23. *On the fundamental solution of the operator of dynamic linear thermodiffusion* (joint work with J. Gawinecki und N. Ortner), Zeitschrift für Analysis und ihre Anwendungen **15** (1996) 149–158; MR **97j:** 35148.

24. *Solution of the initial-boundary value problem for the simply supported semi-infinite Timoshenko beam* (joint work with N. Ortner), Journal of Elasticity **42** (1996) 217–241; MR **97g:** 73061. (doi: 10.1007/BF00041791)

25. *A volume formula for asymptotic hyperbolic tetrahedra with an application to quantum field theory*, Indagationes Mathematicae, N. S., **7** (1996) 527–547; MR **99e:** 52010. (doi: 10.1016/S0019-3577(97)89138-0)

26. *Solution to a problem posed by H. S. M. Coxeter*, Comptes Rendus Mathématiques de l'Académie des Sciences, Canada, **18** (1996) 273–277; MR **98f:** 51031.

27. *A survey on explicit representation formulae for fundamental solutions of linear partial differential operators* (joint work with N. Ortner), Acta Applicandae Mathematicae **47** (1997) 101–124; MR **98h:** 35031. (doi: 10.1023/A:1005784017770)

28. *Manipulating Gibbs' phenomenon for Fourier interpolation* (joint work with G. Helmberg), Journal of Approximation Theory **89** (1997) 308–320; MR **99d:** 42003. (doi: 10.1006/jath.1996.3056)

29. *Evaluation of non-relativistic one-loop Feynman integrals by distributional methods*, Journal of Mathematical Physics **39** (1998) 2428–2436; MR **99h:** 81145. (doi: 10.1063/1.532296)

30. *Fundamental solutions of real homogeneous cubic operators of principal type in three dimensions*, Acta Mathematica **182** (1999) 283–300; MR **2001f:** 35072. (doi: 10.1007/BF02392576)

31. *A fundamental solution of N. Zeilon's operator*, Mathematica Scandinavica **86** (2000) 273–287; MR **2001b:** 35057.

32. *On the fundamental solutions of a class of elliptic quartic operators in dimension 3*, Journal de Mathématiques Pures et Appliquées **81** (2002) 1191–1206; MR **2003j:** 35004. (doi: 10.1016/S0021-7824(02)01258-8)

33. *Volume preserving mappings in the spirit of the Mazur–Ulam theorem* (joint work with Th. Rassias), Aequationes Mathematicae **66** (2003) 85–89. (doi: 10.1007/s00010-003-2669-7)

34. *Deduction of L. Hörmander's extension of Ásgeirsson's mean value theorem* (joint work with N. Ortner), Bulletin des Sciences Mathématiques **127** (2003) 835–843; MR **2004j:** 35204. (doi: 10.1016/S0007-4497(03)00045-9)

35. *Fundamental matrices of homogeneous hyperbolic systems. Applications to crystal optics, elastodynamics and piezoelectromagnetism* (joint work with N. Ortner), Zeitschrift für Angewandte Mathematik und Mechanik (ZAMM) **84** (2004) 314–346; MR **2005c:** 35181. (doi: 10.1002/zamm.200310130)

36. *On the explicit calculation of fundamental solutions*, Journal of Mathematical Analysis and Applications **297** (2004) 404–418; MR **2005e:** 35029. (doi: 10.1016/j.jmaa.2004.02.014)

37. *On the fundamental solutions of a class of hyperbolic quartic operators in dimension 3*, Annali di Matematica Pura ed Applicata **184** (2005) 139–159; MR **2006e:** 35029. (doi: 10.1007/s10231-004-0105-9)

38. *Convolution groups for quasihyperbolic systems of differential operators* (joint work with N. Ortner), Note di Matematica **25**, n. 2 (2005/2006) 139–157; MR **2007j:** 35017. (doi: 10.1285/i15900932v25n2p139)

39. *A new approach to quantum backflow* (joint work with M. Penz, G. Grübl, and S. Kreidl), Journal of Physics A: Mathematical and General **391** (2006) 423–433; MR **2006k:** 81111. (doi: 10.1088/0305-4470/39/2/012)

40. *The Herglotz formula and fundamental solutions of hyperbolic cubic operators in* $\mathbb{R}^4$, Integral Transforms and Special Functions **17** (2006) 307–314; MR **2007e:** 35178. (doi: 10.1080/10652460500422031)

41. *Groundwater ingress to tunnels – The exact analytical solution* (joint work with D. Kolymbas), Tunnelling and Underground Space Technology **22** (2007) 23–27. (doi: 10.1016/j.tust.2006.02.001)

42. *A mathematically rigorous formulation of the pseudopotential method* (joint work with F. Stampfer), Journal of Mathematical Analysis and Applications **342** (2008) 202–212; MR **2009k:** 35041. (doi: 10.1016/j.jmaa.2007.12.004)

43. *The fundamental matrix of the system of linear elastodynamics in hexagonal media. Solution to the problem of conical refraction* (joint work with N. Ortner), IMA Journal of Applied Mathematics **73** (2008) 412–447; MR **2009h:** 74042. (doi: 10.1093/imamat/hxn002)

44. *A new constructive proof of the Malgrange–Ehrenpreis theorem*, American Mathematical Monthly **116** (2009) 457–462; MR **2010b:** 35007. (doi: 10.4169/193009709X470362)

45. *On the static term for the electric field in crystal optics* (joint work with N. Ortner), Quarterly Journal of Mechanics and Applied Mathematics **62** (2009) 311–319; MR **2010f:** 78008. (doi: 10.1093/qjmam/hbp011)

46. *On conical refraction in hexagonal and cubic media* (joint work with N. Ortner), SIAM Journal on Applied Mathematics **70** (2009) 1239–1259; MR **2010j:** 35547. (doi: 10.1137/080736636)

47. *A mathematically rigorous formulation of the Fermi pseudopotential for higher-partial-wave scattering in arbitrary dimension* (joint work with F. Stampfer), Physical Review A **81** (2010) 052710. (doi: 10.1103/PhysRevA.81.052710)

48. *Distributions supported by hypersurfaces*, Applicable Analysis **89** (2010) 1183–1199; MR **2011i:** 58004. (doi: 10.1080/00036811003649132)

49. *On the Fourier transform of Lorentz invariant distributions* (joint work with N. Ortner), Functiones et Approximatio (Commentarii Mathematici) **44** (2011) 133–151; MR **2012d:** 46100. (doi: 10.7169/facm/1301497750)

50. *M. Riesz' kernels as boundary values of conjugate Poisson kernels* (joint work with M. Guzmán-Partida and N. Ortner), Bulletin des Sciences Mathématiques **135** (2011) 291–302; MR **2012c:** 42034. (doi: 10.1016/j.bulsci.2010.11.001)

51. *The singular terms in the fundamental matrix of crystal optics*, Proceedings of the Royal Society A **467** (2011) 2663–2689; MR **2012i:** 35386. (doi: 10.1098/rspa.2011.0058)

52. *Cavity expansion in cross anisotropic rock* (joint work with A. Blioumi and D. Kolymbas), International Journal for Numerical and Analytical Methods in Geomechanics **36** (2012) 128–139. (doi: 10.1002/nag.998)

53. *Explicit representations of L. Schwartz' spaces $\mathcal{D}_{L^p}$ and $\mathcal{D}'_{L^p}$ by the sequence spaces $s \hat{\otimes} l^p$ and $s' \hat{\otimes} l^p$, respectively, for $1 < p < \infty$* (joint work with N. Ortner), Journal of Mathematical Analysis and Applications **404** (2013) 1–10; MR 3061375. (doi: 10.1016/j.jmaa.2013.02.041)

54. *Division problem for spatially periodic distributions* (joint work with A. Sasane), Journal of Mathematical Analysis and Applications **408** (2013) 70–75; MR 3079947. (doi: 10.1016/j.jmaa.2013.05.066)

55. *On convolution in weighted $\mathcal{D}'_{L^p}$-spaces*, Mathematische Nachrichten **287** (2014) 472–477; MR 3179674. (doi: 10.1002/mana.201200271)

56. *On the spaces $\mathcal{O}_C^m$ of John Horváth* (joint work with N. Ortner), Journal of Mathematical Analysis and Applications **415** (2014) 62–74; MR 3173154. (doi: 10.1016/j.jmaa.2014.01.018)

57. *Fourier transformation of O(p,q)-invariant distributions. Fundamental solutions of ultra-hyperbolic operators* (joint work with N. Ortner), Journal of Mathematical Analysis and Applications **450** (2017) 262–292; MR 3606168. (doi: 10.1016/j.jmaa.2016.12.061)

58. *Applications of O(p,q)-invariant distributions* (joint work with N. Ortner), Mathematische Nachrichten, to appear.

III. Miscellanea.

1. *Sobre algumas propriedades dos espaços $\mathcal{D}'_{L^p}$ de L. Schwartz*, 16º Seminário Brasileiro de Análise, 149–153, Rio de Janeiro, 1982.

2. *Soluções fundamentais de operadores diferenciais parciais com coeficientes constantes*, Notas de Matemática, São Carlos, 1983, 114 pp.

3. *Multiplikation und Faltung von homogenen Distributionen*, Tagungsbericht 20/1989 des Mathematischen Forschungsinstitutes Oberwolfach (Generalized Functions and Complex Analysis), p. 19, Oberwolfach, 1989.

4. *On the fundamental matrix of the system of dynamic linear thermoelasticity*, Extended Abstracts, 2nd Int. Conf. on Mathematical and Numerical Aspects of Wave Propagation, 101–102, University of Delaware, 1993.

5. *A short proof of the Malgrange–Ehrenpreis theorem* (joint work with N. Ortner), Functional Analysis, Proc. of the 1st Int. Workshop, ed. by S. Dierolf, S. Dineen, P. Domański, 343–352, de Gruyter, Berlin, 1996; MR **97g:** 35021.

6. *Zeilon's operator and lacunae*, Functional-Analytic and Complex Methods, their Interactions, and Applications to Partial Differential Equations, Proc. of a Workshop on PDE in Graz 2001, ed. by N. Ortner, W. Tutschke, 33–46, World Scientific, Singapur, 2001; MR **2003b:** 35005.

7. *Some remarks on single conservation laws* (joint work with M. Tsuji), Advances in Deterministic and Stochastic Analysis, ed. by N. M. Chuong, P. G. Ciarlet, P. Lax, D. Mumford, D. H. Phong, 91–102, World Scientific, Singapur, 2007; MR **2008m:** 35234.

8. *Distribution-Valued Analytic Functions – Theory and Applications* (joint work with N. Ortner), Max Planck Institute for Mathematics in the Sciences, Lecture note Nr. 37, Leipzig 2008.

9. *Fundamental solutions in classical thermoelasticity* (joint work with N. Ortner), Encyclopedia of Thermal Stresses, Vol. 4, 1893–1900, Springer, New York, 2014. (doi: 10.1007/978-94-007-2739-7)

10. *A new constructive proof of the Malgrange–Ehrenpreis theorem*, Mathematical Advances in Translation (Chinese) **34** (2015) 89–93.

IV. Problems and solutions.

1. Problem 570, by M. J. Ritter, Nieuw Archief voor Wiskunde (3) **27** (1980), p. 118; Solution: Nieuw Archief voor Wiskunde (3) **28** (1980) 306–307.

2. *A Laplace transform,* Problem 88-13, by M. L. Glasser, SIAM Review **30** (1988), p. 503; Solution (joint work with N. Ortner): SIAM Review **31** (1989) 497–498. (doi: 10.1137/1031102)

3. *Reducing a double integral,* Problem 88-14*, by N. Ortner and P. Wagner, SIAM Review **30** (1988) 503–504.

4. *Limit of a definite integral,* Problem 91-4*, by C. A. Oster, SIAM Review **33** (1991) 115–116; Solution: SIAM Review **34** (1992), p. 123. (doi: 10.1137/1034013)

5. Problem 858, by W. A. J. Luxemburg, Nieuw Archief voor Wiskunde (4) **10** (1992), p. 327; Solution (joint work with N. Ortner): Nieuw Archief voor Wiskunde (4) **11** (1993) 293–294.

6. *A series of Bessel functions,* Problem 95-10, by N. Ortner and P. Wagner, SIAM Review **37** (1995) 236–237. (doi: 10.1137/1037051, 10.1137/1038057)

7. *An integral occuring in coherence theory,* Problem 94-16, by R. C. Wittman and B. K. Alpert, SIAM Review **36** (1994), p. 655; Solution (joint work with N. Ortner): SIAM Review **37** (1995) 611–615.

8. Problem 915, by P. J. de Doelder, Nieuw Archief voor Wiskunde (4) **12** (1994), p. 210; Solution (joint work with N. Ortner): Nieuw Archief voor Wiskunde (4) **14** (1996) 312–315.

9. Trefethen's SIAM challenge, http://web.comlab.ox.ac.uk/oucl/work/nick.trefethen/hundred.html.

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