

LIST OF PUBLICATIONS

1. **Über Abschnittslimitierbarkeit**, Dissertation, Ulm 1972.
2. **Über Abschnittslimitierbarkeit**, J. reine u. ang. Math. 281 (1976) 211–218.
3. **On linear functionals and summability factors for strong summability** (jointly with W. B. Jurkat and A. Peyerimhoff), Can. J. Math. 30 (1978) 983–996.
4. **Einige Beiträge zur Invariantentheorie meromorpher Differentialgleichungen**, Habilitation Thesis, Ulm 1978.
5. **Birkhoff invariants and Stokes' multipliers for meromorphic linear differential equations** (jointly with W. B. Jurkat and D. A. Lutz), J. Math. Anal. Appl. 71 (1979) 48–94.
6. **A general theory of invariants for meromorphic differential equations Part I, formal invariants** (jointly with W. B. Jurkat and D. A. Lutz), Funk. Ekvac. 22 (1979) 197–221.
7. **A general theory of invariants for meromorphic differential equations, Part II, proper invariants** (jointly with W. B. Jurkat and D. A. Lutz), Funk. Ekvac. 22 (1979) 257–283.
8. **Invariants for reducible systems of meromorphic differential equations** (jointly with W. B. Jurkat and D. A. Lutz), Proc. Edinb. Math. Soc. 23 (1980) 163–187.
9. **A general theory of invariants for meromorphic differential equations, Part III, applications** (jointly with W. B. Jurkat and D. A. Lutz), Houston J. Math. 6 (1980) 149–189.
10. **Zum Einzigkeitssatz in der Invariantentheorie meromorpher Differentialgleichungen**, J. reine u. angew. Math. 318 (1980) 51–82.
11. **On linear functionals and summability factors for strong summability, Part II** (jointly with W. B. Jurkat and A. Peyerimhoff), Can. J. Math. 33 (1981) 769–781.

12. **On the reduction of the connection problems for differential equations with an irregular singular point to ones with only regular singularities, I** (jointly with W. B. Jurkat and D. A. Lutz), *SIAM J. Math. Anal.* 12 (1981) 691–721.
13. **The detailed structure of formal analytic invariants of a meromorphic differential equation**, *Yokohama Math. J.* 29 (1981) 47–76.
14. **On the existence of solution vectors of a meromorphic differential equation which are of lower order than the others**, *Analysis* 1 (1981) 291–295.
15. **Transfer of connection problems for meromorphic differential equations of rank $r \geq 2$ and representations of solutions** (jointly with W. B. Jurkat and D. A. Lutz), *J. Math. Anal. Appl.* 85 (1982) 488–542.
16. **Solutions of first level of meromorphic differential equations**, *Proc. Edinb. Math. Soc.* 25 (1982) 183–207.
17. **Growth estimates for the coefficients of generalized formal solutions, and representation of solutions using Laplace integrals and factorial series**, *Hiroshima Math. J.* 12 (1982) 11–42.
18. **Transfer of connection problems for first level solutions of meromorphic differential equations, and associated Laplace transforms** (jointly with W. B. Jurkat and D. A. Lutz), *J. reine u. angew. Math.* 344 (1983) 149–170.
19. **Characterization of first level formal solutions by means of the growth of their coefficients** (jointly with W. B. Jurkat and D. A. Lutz), *J. Diff. Eq.* 51 (1984) 48–77.
20. **Convergent power series expansions for the Birkhoff invariants of meromorphic differential equations, Part I: Definition of the coefficient functions**, *Yokohama Math. J.* 32 (1984) 15–29.
21. **A constructive existence proof for first level formal solutions of meromorphic differential equations**, *Hiroshima Math. J.* 15 (1985) 411–427.
22. **Convergent power series expansions for the Birkhoff invariants of meromorphic differential equations, Part II: A closer study of the coefficients**, *Yokohama Math. J.* 33 (1985) 5–19.

23. **Hypergeometric functions in several variables, arising from connection problems for meromorphic differential equations**, Arch. Math. 47 (1986) 41–48.
24. **On the reduction of the connection problems for differential equations with an irregular singular point to ones with only regular singularities, II** (jointly with W. B. Jurkat and D. A. Lutz), SIAM J. Math. Anal. 19 (1988) 398–443.
25. **Explicit evaluation of the Stokes' multipliers and central connection coefficients for certain systems of linear differential equations**, Math. Nachr. 138 (1988) 131–144.
26. **Meromorphic transformation to Birkhoff standard form in dimension three**, J. Fac. Sc. Univ. Tokyo 36 (1989) 233–246.
27. **Analytic transformation to Birkhoff standard form in dimension three**, Funk. Ekvac. 33 (1990) 59–67.
28. **Dependence of differential equations upon parameters in their Stokes' multipliers**, Pacific J. Math. 149 (1991) 211–229.
29. **Multisummability of formal power series solutions of linear ordinary differential equations** (jointly with B. L. J. Braaksma, J.-P. Ramis and Y. Sibuya), Asympt. Analysis 5 (1991) 27–45.
30. **A different characterization of multi-summable power series**, Analysis 12 (1992) 57–66.
31. **Summation of formal power series through iterated Laplace integrals**, Math. Scand. 70 (1992) 161–171.
32. **Multisummability of iterated integrals** (jointly with A. Tovbis), Asympt. Analysis 7 (1993) 121–127.
33. **Calculation of the Stokes' multipliers for a polynomial system of rank 1 having distinct eigenvalues at infinity**, Hiroshima Math. J. 23 (1993) 223–230.
34. **Addendum to my paper: A different characterization of multi-summable power series**, Analysis 13 (1993) 317–319.
35. **First level formal solutions and multisummability**, J. Dyn. and Control Systems 1 (1995) 203–227.
36. **An integral equation for normal solutions to meromorphic differential equations**, J. Dyn. and Control Systems 1 (1995) 367–378.

37. **Divergent series, multisummability, and complex differential equations** in: Value Distribution Theory and Complex Differential Equations (Ed. Ilpo Laine), University of Joensuu Publications in Sciences 35 (1995) 1–16.
38. **Formal solutions of non-linear systems of ordinary differential equations** in: The Stokes Phenomenon and Hilbert’s 16th Problem, Proceedings of the Workshop on Stokes’ Phenomena and Applications, Groningen 1995, Editors B. L. J. Braaksma, G. K. Immink and M. van der Put, World Scientific, 1995, 25–49.
39. **Necessary and sufficient conditions for matrix summability methods to be stronger than multisummability** (jointly with A. Beck), Ann. Inst. Fourier Grenoble 46 (1996) 1349–1357.
40. **A problem for entire functions, arising from the theory of multisummability**, Ulmer Seminare 1 (1996) 402–403.
41. **On the central connection problem for equations with an irregular singular point of a single level**, J. Dyn. and Control Systems 3 (1997) 19–32.
42. **Moment methods and formal power series**, J. Math. Pures Appl. 76 (1997) 289–305.
43. **Existence and structure of complete formal solutions of non-linear meromorphic systems of ordinary differential equations**, Asymptotic Analysis 15 (1997) 261–282.
44. **Multisummability of complete formal solutions for non-linear systems of meromorphic ordinary differential equations**, Complex Variables 34 (1997) 19–24.
45. **Transformation of reducible equations to Birkhoff standard form** (jointly with A. A. Bolibruch), Ulmer Seminare über Funktionalanalysis und Differentialgleichungen 2 (1997) 73–81.
46. **A Laurent-type expansion for solutions of Stokes’ equation in sectorial regions** (jointly with A. Peyerimhoff), Analysis Mathematica 24 (1998) 15–30.
47. **Some remarks, examples, and questions concerning summability of formal factorial series**, Ulmer Seminare über Funktionalanalysis und Differentialgleichungen, no. 3, 1998, 79–86.

48. **Divergent solutions of the heat equation: on an article of Lutz, Miyake and Schäfke**, Pacific J. of Math. 188 (1999) 53-63.
49. **Computation of formal fundamental solutions**, Linear Algebra and Appl. 288 (1999) 293-312.
50. **Summability of formal solutions of certain partial differential equations** (jointly with M. Miyake), Acta Sci. Math. Szeged 65 (1999) 543-551.
51. **Power series methods and multisummability** (jointly with R. W. Braun), Math. Nachrichten 212 (2000) 37-50.
52. **Recent results on multisummability of power series in several variables**, Seminarios Temáticos, Instituto de Estudios con Iberoamerica y Portugal 3 (2000) 35-48.
53. **Summability of formal power series solutions of ordinary and partial differential equations**, Functional Differential Equations 8 (2001) 11-24.
54. **On the convergence of Borel approximants** (jointly with D. A. Lutz and R. Schäfke), J. Dyn. and Control Systems 8 (2002) 65-92.
55. **Multisummability of formal solutions of singular perturbation problems** (jointly with J. Mozo), J. Diff. Equations 183 (2002) 526-545.
56. **Singular perturbation of linear systems with a regular singularity** (jointly with V. Kostov), J. Dynamical and Control Systems 8 (2002) 313-322.
57. **Recent progress in the theory of formal solutions for ODE and PDE** (jointly with V. Kostov), Applied Math. and Computation 141 (2003) 113-123.
58. **Linear systems with nilpotent leading term**, Linear Algebra and its Applications, 369 (2003) 145-152.
59. **Summability of formal power series solutions of partial differential equations with constant coefficients**, Sovumennaja Matematika Fundamentalnie Napravlenija (Moscow Aviation Inst.) 1 (2003) 5-17, Russian translation of an article submitted to the *Proceedings of the International Conference on Differential and Functional Differential Equations, Moscow, 2002*.

60. **Multisummability of formal power series solutions of partial differential equations with constant coefficients**, *J. Diff. Equations*, 201 (2004) 63–74.
61. **Formal solutions of the complex heat equation in higher spatial dimensions** (jointly with S. Malek), in *Proceedings of Global and asymptotic analysis of differential equations in the complex domain*, Sūrikaiseikikenkyūsho Kōkyūroku, RIMS 1367 (2004) 95–102.
62. **Power series and moment summability methods of finite order**, in *Proceedings of Global and asymptotic analysis of differential equations in the complex domain*, Sūrikaiseikikenkyūsho Kōkyūroku, RIMS 1367 (2004) 87–94.
63. **Summability of formal power series solutions of partial differential equations with constant coefficients**, *Journal of Mathematical Sciences*, 124 (2004) 5085–5097.
64. **Birkhoff’s reduction problem (Russian translation)**, *Uspekhi Matematicheskikh Nauk* 59 (2004) 41–54.
65. **Birkhoff’s reduction problem (English version)**, *Russian Mathematical Surveys* 59 (2004) 1047–1059.
66. **Asymptotic existence theorems for formal power series whose coefficients satisfy certain partial differential recursions**, *Journal of Differential Equations* 209 (2005) 442–457.
67. **Formally well-posed Cauchy problems for linear partial differential equations with constant coefficients** (jointly with V. Kostov), in *Analyzable Functions and Applications*, O. Costin, M. D. Kruskal, and A. Macintyre, eds., *AMS Contemporary Mathematics* 373 (2005) 87–102.
68. **Power series solutions of the inhomogeneous heat equation**, in *Proceedings of Recent trends in Microlocal Analysis*, Sūrikaiseikikenkyūsho Kōkyūroku, RIMS 1412 (2005) 151–159.
69. **Summability of power series in several variables, with applications to singular perturbation problems and partial differential equations**, *Annales de la Faculté des Sciences de Toulouse* 14 (2005) 593–608.
70. **Formal power series solutions of the heat equation in one spatial variable**, in *Differential Equations and Quantum Groups, Andrey A. Bolibrukh Memorial Volume*, Daniel Bertrand, Benjamin Enriquez,

Claude Mitschi, Claude Sabbah, Reinhard Schaefer, eds., Lectures in Mathematics and Theoretical Physics 9 (2005) 49-58.

71. **Summability of formal solutions for abstract Cauchy problems and related convolution equations** (jointly with A. Duval and S. Malek), Ulmer Seminare über Funktionalanalysis und Differentialgleichungen, no. 11, 2007, 29–44.
72. **Summability of formal power series solutions of a perturbed heat equation** (jointly with M. Loday-Richaud), Ulmer Seminare über Funktionalanalysis und Differentialgleichungen, no. 11, 2007, 45–52.
73. **Systems of linear ordinary differential equations – a review of three solution methods** (jointly with C. Röscheisen and F. Steiner), Ulmer Seminare über Funktionalanalysis und Differentialgleichungen, no. 11, 2007, 53–62.
74. **Solutions of Systems of Linear Ordinary Differential equations** (jointly with C. Roescheisen, F. Steiner, and E. Straeng), in: *Mathematical Analysis of Evolution, Information, and Complexity*, Wiley-VCH, Berlin, 2009, 73–98.
75. **Solving the hypergeometric system of Okubo type in terms of a certain generalized hypergeometric function** (jointly with C. Röscheisen), *J. Differential Equations* 247 (2009) 2485–2494.
76. **Summability of solutions of the heat equation with inhomogeneous thermal conductivity in two variables** (jointly with M. Loday-Richaud), *Advances in Dynamical Systems and Applications* 4 (2009) 159–177.
77. **Gevrey order of formal power series solutions of inhomogeneous partial differential equations with constant coefficients** (jointly with M. Yoshino), *Funk. Ekvac.* 53 (2010) 411–434.
78. **Computation of formal solutions of linear systems of difference equations** (jointly with T. Bothner), *Advances in Dynamical Systems and Applications* 5 (2010) 29–47.
79. **Integrability of Hamiltonian systems and Borel summability** (jointly with M. Yoshino), *Math. Zeitschr.* 268 (2011) 257–280.
80. **Semi-formal theory and Stokes’ phenomenon of nonlinear meromorphic systems of ordinary differential equations**, in: *Formal and analytic solutions of differential and difference equations*, Banach Center Publications vol. 97 (2012) 11–28.

81. **Non-linear difference equations and Stokes matrices**, Advances in Dynamical Systems and Applications 7 (2012) 145–162. Online on <http://campus.mst.edu/adsa>
82. **Computation of the Stokes multipliers of Okubo’s confluent hypergeometric system**, Advances in Dynamical Systems and Applications 9 (2014) 53–74. Online on <http://campus.mst.edu/adsa>

Books

1. **From Divergent Power Series to Analytic Functions: Theory and Applications of Multisummable Power Series**, Lecture Notes in Mathematics 1582, Springer Verlag 1994.
2. **Formal Power Series and Linear Systems of Meromorphic Ordinary Differential Equations**, Universitext, Springer Verlag 2000.
3. **Formal and analytic solutions of differential and difference equations**, Proceedings of a conference in Warszawa (Editor, jointly with G. Filipuk, G. Łysik, and S. Michalik), Banach Center Publications vol. 9 (2012), 190 p.