

List of Publications

Werner Kratz

1. W. Kratz and R. Šimon Hilscher, A generalized index theorem for monotone matrix-valued functions with applications to discrete oscillation theory, 11 pages, submitted.
2. M. Bohner, W. Kratz and R. Šimon Hilscher, Oscillation and spectral theory for linear Hamiltonian systems with nonlinear dependence on the spectral parameter, 14 pages, Math. Nachr., accepted.
3. W. Kratz and R. Šimon Hilscher, Rayleigh principle for linear Hamiltonian systems without controllability, 19 pages, ESAIM Control Optim. Calc. Var., accepted.
4. W. Kratz, R. Šimon Hilscher and V. Zeidan, Eigenvalue and oscillation theorems for time scale symplectic systems, Int. J. Dyn. Syst. Differ. Equ. 3, 84–131(2011).
5. O. Došlý and W. Kratz, Oscillation and spectral theory for symplectic difference systems with separated boundary conditions, J. Difference Equ. Appl. 16, 831–846(2010).
6. O. Došlý and W. Kratz, A remark on focal points of recessive solutions of discrete symplectic systems, J. Math. Anal. Appl. 363, 209–213(2010).
7. W. Kratz, Banded matrices and discrete Sturm-Liouville eigenvalue problems, Adv. Difference Equ. 2009, Art. ID 362627, 1–18(2009).
8. R. Hilscher, W. Kratz and V. Zeidan, Differentiation of solutions of dynamic equations on time scales with respect to parameters, Adv. Dyn. Syst. Appl. 4, 35–54(2009).
9. M. Bohner, O. Došlý and W. Kratz, Sturmian and spectral theory for discrete symplectic systems, Trans. Amer. Math. Soc. 361 (6), 3109–3123(2009).

10. W.Kratz and M. Tentler, Recursion formulae for the characteristic polynomial of symmetric banded matrices, *Linear Algebra Appl.* 428, 2482–2500(2008).
11. O.Došlý and W.Kratz, Oscillation theorems for symplectic difference systems, *J. Difference Equ. Appl.* 13, 585–605(2007).
12. O.Došlý and W.Kratz, A Sturmian separation theorem for symplectic difference systems, *J. Math. Anal. Appl.* 325, 333–341(2007).
13. D. Borwein and W. Kratz, Weighted convolution operators on ℓ_p , *Canad. Math. Bull.* 48, 175–179(2005).
14. D. Borwein and W. Kratz, A one-sided Tauberian theorem for the Borel summability method, *J. Math. Anal. Appl.* 293, 285–292(2004).
15. M. Bohner, O. Došlý, R. Hilscher and W. Kratz, Diagonalization approach to discrete quadratic functionals, *Archives of Inequalities and Appl.* 1, 261–274(2003).
16. M. Bohner, O. Došlý and W. Kratz, Positive semidefiniteness of discrete quadratic functionals, *Proc. Edinburgh Math. Soc.* 46, 627–636(2003).
17. M. Bohner, O. Došlý and W. Kratz, An oscillation theorem for discrete eigenvalue problems, *Rocky Mountain J. Math.* 33 (4), 1233–1260(2003).
18. W. Kratz, Definiteness of quadratic functionals, *Analysis* 23, 163–183 (2003).
19. W. Kratz and U. Stadtmüller, Alexander Peyerimhoff 1926-1996, *Jahresber. Deutsch. Math.-Verein.* 105, 79–88(2003).
20. W. Kratz, Discrete oscillation, *J. Difference Equ. Appl.* 9, 136–147(2003).
21. W. Kratz, Banded matrices and difference equations, *Linear Algebra Appl.* 337, 1–20(2001).
22. D. Borwein, W. Kratz and U. Stadtmüller, One-sided Tauberian theorems for Dirichlet methods of summability, *Rocky Mountain J. Math.* 31 (3), 797–829(2001).

23. W. Kratz, A Tauberian theorem for the Borel method, *Indian J. Math.* 42(3), 297–307(2000).
24. W. Kratz, Sturm-Liouville difference equations and banded matrices, *Arch. Math. (Brno)* 36, 499–505(2000).
25. J. Beurer, D. Borwein and W. Kratz, Two Tauberian theorems for Dirichlet series methods of summability, *Acta Sci. Math. (Szeged)* 65, 139–168(1999).
26. W. Kratz, On optimal constants for best two-dimensional simultaneous Diophantine approximations, *Monatsh. Math.* 128, 99–110(1999).
27. M. Bohner, O. Došlý and W. Kratz, Discrete Reid roundabout theorems, *Dynam. Systems and Appl.* 8(3-4), 345–352(1999).
28. M. Bohner, O. Došlý and W. Kratz, A Sturmian theorem for recessive solutions of linear Hamiltonian difference systems, *Appl. Math. Lett.* 12, 101–106(1999).
29. W. Kratz, D. Liebscher and R. Schätzle, On the definiteness of quadratic functionals, *Ann. Mat. Pura Appl. (4)* 176, 133–143(1999).
30. H.A. Kestler, M. Haschka, W. Kratz, F. Schwenker, G. Palm, V. Hombach and M. Höher, De-noising of high-resolution ECG signals by combining the discrete wavelet transform with the Wiener filter, *IEEE Computer Society, Computers in Cardiology* 25, 233-236 (1998).
31. W. Kratz, An extremal problem related to the maximum modulus theorem for Stokes functions, *Z. Anal. Anwendungen* 17 (3), 599–613(1998).
32. W. Kratz and D. Liebscher, A local characterization of observability, *Linear Algebra Appl.* 269, 115–137(1998).
33. M. Bohner, O. Došlý and W. Kratz, Inequalities and asymptotics for Riccati matrix difference operators, *J. Math. Anal. Appl.* 221, 262–286(1998).
34. W. Kratz, An inequality for finite differences via asymptotics of Riccati matrix difference equations, *J. Difference Equ. Appl.* 4, 229–246(1998).

35. D. Borwein and W. Kratz, A high indices Tauberian theorem, *Acta Sci. Math. (Szeged)* 64, 143–149(1998).
36. W. Kratz, Quadratic functionals: positivity, oscillation, Rayleigh's principle, *Arch. Math. (Brno)* 34, 143–151(1998).
37. W. Kratz, The maximum modulus theorem for the Stokes system in a ball, *Math. Z.* 226, 389–403(1997).
38. W. Kratz, An extremal problem for Stokes functions in the plane, *Analysis* 17, 219–225(1997).
39. W. Kratz, *Quadratic functionals in variational analysis and control theory*, Akademie Verlag, Berlin 1995.
40. W. Kratz, On the maximum modulus theorem for Stokes functions, *Appl. Anal.* 58, 293–302(1995)
41. W. Kratz, An oscillation theorem for self-adjoint differential systems and an index result for corresponding Riccati matrix differential equations, *Math. Proc. Cambridge Philos. Soc.* 118, 351–361(1995)
42. W. Kratz, An oscillation theorem for self-adjoint differential systems and the Rayleigh principle for quadratic functionals, *J. London Math. Soc. (2)* 51, 401–416(1995).
43. W. Kratz, Characterization of strong observability and construction of an observer, *Linear Algebra Appl.* 221, 31–40(1995).
44. W. Kratz, An index theorem for monotone matrix-valued functions, *SIAM J. Matrix Anal. Appl.* 16 (1), 113–122(1995)
45. D. Borwein and W. Kratz, An O-Tauberian theorem and a high indices theorem for power series methods of summability, *Math. Proc. Cambridge Philos. Soc.* 115, 365–375(1994).
46. W. Kratz, On the optimal linear regulator, *Internat. J. Control*, 60 (5), 1005–1013(1994).
47. W. Kratz, On a certain asymptotic behaviour of time-invariant Riccati matrix differential equations, *SIAM J. Control Optim.* 31 (1), 70–85(1993).

48. W. Kratz, The asymptotic behaviour of Riccati matrix differential equations, *Asymptotic Anal.* 7, 67–80(1993).
49. W. Kratz and A. Peyerimhoff, On the representation of Stokes flows and a solution of the inhomogeneous Stokes equations in the plane, *J. Math. Anal. Appl.* 180, 109–116(1993).
50. W. Kratz, A limit theorem for monotone matrix functions, *Linear Algebra Appl.* 194, 205–222(1993).
51. W. Kratz and R. Trautner, The central limit theorem for subsequences and rearrangements of random variables, *Acta Sci. Math. (Szeged)* 58, 175–189(1993).
52. W. Kratz and A. Lindae, A representation formula for three-dimensional Stokes flows, *Z. Anal. Anwendungen* 11 (3), 371–375(1992).
53. W. Kratz, On the representation of Stokes flows, *SIAM J. Math. Anal.* 22 (2), 414–423(1991).
54. F.P. Cass and W. Kratz, Nörlund and weighted mean matrices as operators on ℓ_p , *Rocky Mountain J. Math.* 20 (1), 59–74(1990).
55. W. Kratz and U. Stadtmüller, Tauberian theorems for Borel-type methods of summability, *Arch. Math. (Basel)* 55, 465–474(1990).
56. W. Kratz and U. Stadtmüller, O -Tauberian theorems for J_p -methods with rapidly increasing weights, *J. London Math. Soc. (2)* 41, 489–502(1990).
57. W. Kratz and A. Peyerimhoff, A numerical algorithm for the Stokes-problem based on an integral equation for the pressure via conformal mappings, *Numer. Math.* 58, 255–272(1990).
58. G. Baur and W. Kratz, A general oscillation theorem for self-adjoint differential systems with applications to Sturm-Liouville eigenvalue problems and quadratic functionals, *Rend. Circ. Mat. Palermo (2)* 38, 329–370(1989).
59. D. Borwein and W. Kratz, On relations between weighted mean and power series methods of summability, *J. Math. Anal. Appl.* 139 (1), 178–186(1989).

60. W. Kratz and U. Stadtmüller, Tauberian theorems for J_p -summability, *J. Math. Anal. Appl.* 139 (2), 362–371(1989).
61. W. Kratz and U. Stadtmüller, Tauberian theorems for general J_p -methods and a characterization of dominated variation, *J. London Math. Soc.* (2) 39, 145–159(1989).
62. W. Kratz, Asymptotic behaviour of Riccati's differential equations associated with self-adjoint scalar equations of even order, *Czechoslovak Math. J.* 38(113), 351–365(1988).
63. W. Kratz and U. Stadtmüller, On the uniform modulus of continuity of certain discrete approximation operators, *J. Approx. Theory* 54 (3), 326–337(1988).
64. W. Kratz, A substitute of l'Hospital's rule for matrices, *Proc. Amer. Math. Soc.* 99, 395–402(1987).
65. W. Kratz, A limit theorem for matrix-solutions of Hamiltonian systems, *Rend. Circ. Mat. Palermo* (2) 36, 457–473(1987).
66. W. Kratz and E. Stickel, Numerical solution of matrix polynomial equations by Newton's method, *IMA J. Numer. Anal.* 7, 355–369(1987).
67. W. Kratz and A. Peyerimhoff, A treatment of Sturm-Liouville eigenvalue problems via Picone's identity, *Analysis* 5, 97–152(1985).
68. W. Kratz and A. Peyerimhoff, An elementary treatment of the theory of Sturmian eigenvalue problems, *Analysis* 4, 73–85(1984).
69. W. Kratz and A. Peyerimhoff, Sturm-Liouville eigenvalue problems and Hilbert's invariant integral, *Indian J. Math.* 25(3), 201–222(1983).
70. W. Kratz, Sukzessive Minima mit und ohne Nebenbedingungen, *Monatsh. Math.* 91, 275–289(1981).
71. W.B. Jurkat and W. Kratz, On optimal systems and on the structure of simultaneous Diophantine approximations, *Analysis* 1, 129–148(1981).
72. W. Kratz und R. Trautner, Zur Konvergenz von Funktionenreihen, *Acta. Math. Acad. Sci. Hungar.* 36(1–2), 99–104(1980).

73. W.B. Jurkat, W. Kratz and A. Peyerimhoff, On best two-dimensional Dirichlet-approximations and their algorithmic calculation, *Math. Ann.* 244, 1–32(1979).
74. W. Kratz and R. Trautner, On the summability of function series, *Acta Math. Acad. Sci. Hungar.* 33(1–2), 101–104(1979).
75. W. Kratz and B.L.R. Shawyer, A strong Riesz mean-value theorem with applications to summability factor theorems, *J. Reine Angew. Math.* 298, 16–31(1978).
76. W. Kratz, The Tauberian theorems which interrelate different Riesz means II, *J. Indian Math. Soc.* 42, 45–66(1978).
77. W. Kratz und R. Trautner, Zum Gültigkeitsbereich des zentralen Grenzwertsatzes und des Gesetzes der großen Zahlen, *Acta Math. Acad. Sci. Hungar.* 29(1–2), 55–66(1977).
78. W.B. Jurkat, W. Kratz and A. Peyerimhoff, Explicit representations of Dirichlet approximations, *Math. Ann.* 228, 11–25(1977).
79. D. Borwein and W. Kratz, On the zeros of the power series $\sum_{n=0}^{\infty} (-1)^n (1 - c^{-n-1})^{\kappa} z^n$ with an application to discontinuous Riesz-summability, *Canad. Math. Bull.* 19(4), 417–424(1976).
80. W.B. Jurkat, W. Kratz and A. Peyerimhoff, The Tauberian theorems which interrelate different Riesz means, *J. Approx. Theory* 13, 235–266(1975).
81. W. Kratz, Zur Unlösbarkeit linearer partieller Differentialgleichungen, *Monatsh. Math.* 78, 223–228(1974).
82. W. Kratz, Tauber-Sätze über Riesz'sche Mittel, Dissertation, Ulm 1974.
83. W. Kratz, Unlösbare partielle Differentialgleichungen 1. Ordnung, Diplomarbeit, Ulm 1972.
84. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, Model for individual substitution of immunoglobulins after membrane plasma separation (MPS), *Nephron* 46, 231-238 (1987).

85. K.B.G. Sprenger, K. Huber, W. Kratz and E. Henze, Nomograms for the prediction of patient's plasma volume in plasma exchange therapy from length, weight and hematocrit, *J. Clin. Apheresis* 3, 185-190 (1987).
86. K.B.G. Sprenger, H. Stephan, W. Kratz, K. Huber and H.E. Franz, Optimising of hemodiafiltration with modern membranes?, *Contrib. Nephrology* 46, 43-60 (1985).
87. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, Two pool model of thyroid hormones for plasma exchange therapy, *Life Support Systems* 3, 1985.
88. K.B.G. Sprenger, W. Kratz, K. Huber, W. Henze and H.E. Franz, Prediction of patient's plasma volume in plasma exchange therapy, In: *Immune and Metabolic Aspects of Therapeutic Blood Purification Systems*, Proc. Symp. Trondheim, Karger Verlag Basel, 394-402 (1985).
89. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, Cost / benefit analysis of plasma exchange theory in hypercholesterolaemia : Cascade filtration compared to conventional membrane plasma separation, In: *Therapeutic Apheresis: A Critical Look*, Y. Nose, P.S. Malchesky, J.W. Smith (eds), ISAO Cleveland, 230-235 (1984).
90. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, Single-Needle-Membrane Plasma Separation (MPS): A variable of costs and kinetic modeling?, In: *First Intern. Symposium on Single-Needle Dialysis*, S. Ringoir, R. Vanholder, P. Ivanovich (eds), ISAO Cleveland, 244-249 (1984).
91. K.B.G. Sprenger, W. Kratz, U. Stadtmüller and H.E. Franz, Mass balance and kinetic modeling of hemodiafiltration, In: *Proc. Intern. Symp. on Kinetic Modeling in Artificial Organs*, H. Klinkmann, P. Ahrenholz, F.D. Biester, J.M. Courtney, D. Falkenhagen, J.D. Gaylor (eds), ISAO Rostock, 214-219(1983).
92. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, Kinetic modeling of plasma separation in thyroïd storm, In : *Plasma Separation and Plasma Fractionation*, Karger Verlag Basel, 38-44(1983).

93. K.B.G. Sprenger, W. Kratz, K. Huber and H.E. Franz, On the quantification of plasme exchange: biological and economical considerations, In: Proc. Intern. Symp. on Kinetic Modeling in Artificial Organs, H. Klinkmann, P. Ahrenholz, F.D. Biester, J.M. Courtney, D. Falkenhagen, J.D. Gaylor (eds), ISAO Rostock, 172-178(1983).
94. K.B.G. Sprenger, W. Kratz, A.E. Lewis and U. Stadtmüller, Kinetic modeling of hemodialysis, hemofiltration and hemodiafiltration, *Kidney International* 24, 143–151(1983).
95. K.B.G. Sprenger, W. Kratz, U. Stadtmüller, E. Junginger und H.E. Franz, Massenbilanzierung und kinetische Modelle bei Hämodiafiltration, *Biomed. Technik* 26, 236–243(1981).
96. K.B.G. Sprenger, W. Kratz, U. Stadtmüller and A.E. Lewis, Massenbilanzierung bei Blutreinigungsverfahren, In : Blutreinigungsverfahren, Franz H.E. (Ed) Georg Thieme Verlag Stuttgart, 120–132(1981).

97. W. Kratz, On the asymptotic behaviour of Riccati matrix differential and difference equations, ECC 97 Proceedings, Brussels 1-4 July 1997, FR-A-L3, 1-4(1997).
98. W. Kratz, Asymptotic behaviour of certain Riccati matrix difference equations, ICDEA 98, Poznan 27-31 August 1998, ed. J. Popena and J. Rakowski, 211-214(1998).
99. W. Kratz, An extremal problem related to the maximum modulus theorem for Stokes functions, *Ulmer Seminare* 1, 243–259(1996).
100. W. Kratz and D. Liebscher, A local characterization of observability, *Ulmer Seminare* 1, 260–277(1996).
101. W. Kratz, D. Liebscher and R. Schätzle, On the definiteness of quadratic functionals, *Ulmer Seminare* 2, 274–283(1997).
102. W. Kratz, On optimal constants for best two-dimensional simultaneous Diophantine approximations, *Ulmer Seminare* 3, 266–279(1998).

103. W. Kratz, Elementare Potentialtheorie, Ulmer Seminare 4, 326–341(1999).
104. W. Kratz, Sturm-Liouville difference equations and banded matrices, Ulmer Seminare 5, 212–220(2000).
105. W. Kratz, A Tauberian theorem for the Borel method, Ulmer Seminare 5, 221–230(2000).
106. W. Kratz, Discrete oscillation, Ulmer Seminare 6, 211–224(2001).
107. M. Bohner, O. Došlý, R. Hilscher and W. Kratz, Diagonalization approach to discrete quadratic functionals, Ulmer Seminare 7, 160–171(2002).
108. O. Došlý and W. Kratz, A Sturmian separation theorem for symplectic difference systems, Ulmer Seminare 10, 117–125(2005).
109. W. Kratz and M. Tentler, Recursion formulae for the characteristic polynomial of symmetric banded matrices, Ulmer Seminare 12, 267–283(2007).
110. M. Bohner, O. Došlý and W. Kratz, Sturmian and spectral theory for discrete symplectic systems, Ulmer Seminare 12, 133–144(2007).
111. O. Došlý and W. Kratz, Oscillation and spectral theory for symplectic difference systems with separated boundary conditions, Ulmer Seminare 14, 119–129(2009).
112. W. Kratz and R. Šimon Hilscher, Rayleigh principle for linear Hamiltonian systems without controllability, Ulmer Seminare 15, 153–169(2010).

April 10, 2012