

## List of Publications

(March 2012)

- [90] *Proximal Point Methods for Variational Problems*, Monograph, 2011,  
<http://www.math.uni-trier.de/~tichatschke/monograph.de.html>
- [89] Interior proximal methods for quasiconvex optimization,  
*J. of Global Optim.*, **52**, (2012) 641-661 (co-author N. Langenberg)
- [88] Note on the paper: Interior proximal method for variational inequalities on non-polyhedral sets,  
*Discussiones Mathematicae, Differential Inclusions, Control and Optim.*, **30** (2010), No. 2, 51-59  
(co-author A. Kaplan)
- [87] Proximal point methods and elliptic regularization,  
*Journal of Nonlinear Analysis*, **71** (2009) 4525-4543 (co-author A. Kaplan)
- [86] Relaxed proximal point algorithms for variational inequalities with multi-valued operators,  
*Optimization Methods and Software*, **23** (2008) 847-877 (co-author E. Huebner)
- [85] Bregman functions and auxiliary problem principle,  
*Optimization Methods and Software*, **1** (2008), 95-107 (co-author A. Kaplan)
- [84] Interior proximal method for variational inequalities on non-polyhedral sets,  
*Discussiones Mathematicae*, **27** (2007) 71-93 (co-author A. Kaplan)
- [83] Bregman-like functions and proximal methods for variational problems with nonlinear constraints,  
*Optimization*, **56** (2007), No. 1/2, 255-267 (co-author A. Kaplan)
- [82] Some results about proximal-like methods, in: *Recent Advances in Optimization*, A. Seeger (ed.),  
*Lecture Notes in Economics and Mathematical Systems*; vol. **563** (2006) 61-86, Springer (co-author  
A. Kaplan)
- [81] Interior proximal method for variational inequalities: Case of non-paramonotone operators,  
*Set-valued Analysis* **12** (2004) 357-382 (co-author A. Kaplan)
- [80] Extended Auxiliary Problem Principle using Bregman distances,  
*Optimization* **53** (2004), No. 5/6, 603-623 (co-Author A. Kaplan)
- [79] Extension of the auxiliary problem principle to variational inequalities with multi-valued operators,  
*Optimization* **53** (2004), No. 3, 223-252 (co-author A. Kaplan)
- [78] On inexact generalized proximal methods with a weakened error tolerance criterion,  
*Optimization* **53** (2004), No.1, 3-17 (co-author A. Kaplan)
- [77] *System Modeling and Optimization XX*,  
*IFIP Series*, vol. **258**, Kluwer 2003 (co-editor E.W. Sachs)
- [76] Proximal-based regularization methods and a successive approximation of variational inequalities in  
Hilbert spaces,  
*Control and Cybernetics* **31** (2002) No. 3 , 521-544 (co-author A. Kaplan)
- [75] Numerical treatment of an asset price model with non-stochastic uncertainty,  
*TOP* **10**, No. 1 (2002) 1-50 (co-authors A. Kaplan, T. Voetmann, M. Böhm)
- [74] Convergence analysis of non-quadratic proximal methods for variational inequalities in Hilbert  
spaces,  
*J. of Global Optim.* **22** (2002) 119-136 (co-author A. Kaplan)

- [73] A general view on proximal point methods to variational inequalities in Hilbert spaces - Iterative regularization and approximation,  
*J. of Nonlinear and Convex Analysis* **2** (2001) 3, 305-332 (co-author A. Kaplan)
- [72] Semi-infinite Programming, Methods for nonlinear problems, in:  
*Encyclopedia of Optimization*, vol. **V**, 112-117, C.A. Floudas and P.M. Pardalos (eds.), Kluwer Acad. Publishers, 2001
- [71] Ill-posed variational problems, in:  
*Encyclopedia of Optimization*, vol. **II**, 453-457, C.A. Floudas and P.M. Pardalos (eds.), Kluwer Acad. Publishers, 2001
- [70] Proximal interior point methods for convex semi-infinite programming,  
*Optimization Methods & Software* **15** (2001) 87-119 (co-author A. Kaplan)
- [69] Proximal methods for variational inequalities with set-valued monotone operators, in:  
*From Convexity to Nonconvexity*, (eds. R. Gilbert, P.D. Panagiotopoulos and P. Pardalos), Kluwer Acad. Publ., 2001, 345-361
- [68] Auxiliary problem principle and the approximation of variational inequalities with non-symmetric multi-valued operators,  
*Canadian Math. Soc* **27** (2000) 185-209 (co-author A. Kaplan)
- [67] Auxiliary problem principle and proximal point methods,  
*J. of Global Optimization* **17** (2000) 201-224 (co-author A. Kaplan)
- [66] Proximal point approach and approximation of variational inequalities,  
*SIAM J. on Control and Optimization* **39**, No. 4 (2000) 1136-1159 (co-author A. Kaplan)
- [65] Stable solution of variational inequalities with composed monotone operators, in: *III-Posed Variational Problems and Regularization Techniques*, M. Thera, R. Tichatschke (eds.),  
*Lecture Notes in Economics and Mathematical Systems* **477** (1999), 111-136 (co-author A. Kaplan)
- [64] *III-posed Variational Problems and Regularization Techniques*,  
*Lecture Notes in Economics and Mathematical Systems* **477**, Springer Verlag, 1999  
(co-editor M. Thera)
- [63] Proximal interior point approach to convex programming problems,  
*Optimization* **45** (1999) 117-148 (co-author A. Kaplan)
- [62] Proximal point methods in nonconvex optimization,  
*J. of Global Optim.* **13** (1998) 4, 389-406 (co-author A. Kaplan)
- [61] A branch-and-bound approach for solving a class of generalized semi-infinite programming problems,  
*Journal of Global Optim.* **13** (1998) 3, 299-315 (co-author E. Levitin)
- [60] On smoothing of parametric minimax-functions and generalized max-functions via regularization,  
*Journal of Convex Analysis* **5** (1998) 2, 199-220 (co-author E. Levitin)
- [59] Proximal point methods in view of interior-point-strategies,  
*Journal of Optimization Theory and Applications* **98** (1998) 2, 399-429 (co-author A. Kaplan)
- [58] Proximal penalty methods for ill-posed parabolic control problems, in: *Control and Estimation of Distributed Parameter Systems*, W. Desch, F. Kappel, K. Kunisch (eds.),  
*ISNM* vol. **126**, Birkhäuser Basel, Boston, Berlin 1998, 169 - 182
- [57] Regularized penalty method for non-coercive parabolic optimal control problems,  
*Control and Cybernetics* **27** (1998) 1, 5-27 (co-author A. Kaplan)
- [56] On the numerical treatment of a class of semi-infinite terminal problems,

- [55] Multi-step Proximal methods for variational inequalities with monotone operators, in: *Recent Advances in Optimization*, P. Gritzmann, R. Horst, E. Sachs, R. Tichatschke (eds.), *Lecture Notes in Economics and Mathematical Systems* **452** (1997) 138-153 (co-author A. Kaplan)
- [54] Regularized Penalty Methods for Ill-Posed Optimal Control with Elliptic Systems, (Part II: Distributed and boundary control, unbounded control set),  
*Control and Cybernetics* **26** (1997) 1, 29-43 (co-authors R. Hettich A. and Kaplan)
- [53] Regularized Penalty Methods for Ill-Posed Optimal Control with Elliptic Equations, (Part I: Distributed control with bounded control set and state constraints),  
*Control and Cybernetics* **26** (1997) 1, 5-27 (co-authors R. Hettich and A. Kaplan)
- [52] *Recent Advances in Optimization*,  
*Lecture Notes in Economics and Mathematical Systems* 452, Springer Verlag, 1997  
(co-editors P. Gritzmann, R. Horst and E. Sachs)
- [51] Prox-regularization and solution of ill-posed elliptic variational inequalities,  
*Applications of Mathematics* **42** (1997) 2, 111-145 (co-author A. Kaplan)
- [50] On a Class of Terminal Variational Problems, in: *Parametric Optimization and Related Topics IV*, J. Guddat, H. Th. Jongen, F. Nozicka, G. Still, F. Twilt (eds.), P. Lang Verlag, Frankfurt 1996, 185-199
- [49] A note on the paper Multi-Step-Prox-Regularization Methods for Solving Convex Variational Problems,  
*Optimization* **37** (1996) 149-152 (co-author A. Kaplan)
- [48] Path-following proximal approach for solving ill-posed convex semi-infinite programming problems,  
*Journal on Optimization Theory and Applications* **90** (1996) 1, 113-137
- [47] Multi-Step-Prox-Regularization Methods for Solving Convex Variational Problems,  
*Optimization* **33** (1995) 4, 287-319 (co-author A. Kaplan)
- [46] On new proximal methods for elliptic variational inequalities (Case of symmetric operators),  
*Lecture Notes in Economics and Mathematical Systems* **429** (1995) 198-213 (co-author A. Kaplan)
- [45] *Stable Methods for Ill-Posed Variational Problems - Prox-Regularization of Elliptical Variational Inequalities and Semi-Infinite Optimization Problems*,  
Akademie Verlag Berlin, 1994 (co-author A. Kaplan)
- [44] Semi-infinite optimization, in: *Modern Mathematical Methods of Optimization*, (ed. Elster K.H.),  
Akademie Verlag Berlin, 1993, 353-361
- [43] Regularized penalty methods for semi-infinite programming problems, II, in:  
*Approximation and Optimization* **3**, 1993, (B. Brosowski, F. Deutsch, J. Guddat (eds.)), P. Lang Publ. House, Frankfurt, Berlin, New York, 341-356 (co-author A. Kaplan)
- [42] Iterative processes for solving incorrect convex variational problems,  
*J. of Global Optimization* **3** (1993) 1, 243-255 (co-author A. Kaplan)
- [41] Investigations about iterative processes for solving incorrect convex variational problems,  
*Lecture Notes in Economics and Mathem. Systems* **382** (1992) 315-329
- [40] Variational inequalities and semi-infinite convex programs,  
*Optimization* **26** (1992) 187-214 (co-author A. Kaplan)
- [39] A regularized penalty method for solving convex semi-infinite programs,  
*Optimization* **26** (1992) 215-228 (co-author A. Kaplan)

- [38] Stable approximation schemes for ill-posed convex variational problems,  
*Siberian Advances in Mathematics* **2** (1992) 1, 123-132
- [37] Adaptive methods for solving ill-posed, convex semi-infinite programs,  
*Soviet Math. Doklady* **45** (1992) 1, 119-123 (co-author A. Kaplan)
- [36] A study of iterative processes for the solution of ill-posed convex variational problems,  
*Soviet Math. Doklady* **42** (1991) 3, 747-751
- [35] A hybrid method for solving semi-infinite programs,  
*Methods of Operations Research* **62** (1989) 79-90, Verlag A. Hein, Ulm
- [34] Connections between generalized, inexact and semi-infinite linear programming,  
*ZOR - Methods and Models of Operations Research* **33** (1989) 367-382 (co-authors R. Hettich)
- [33] About certain classes of inexact linear programming problems and their connection to semi-infinite programs,  
*Wissenschaftliche Zeitschrift PH Halle* **8** (1988) 18-21
- [32] A cutting plane algorithm for solving quadratic semi-infinite programs,  
*Optimization* **19** (1988) 6, 803-817
- [31] Methods of feasible directions for solving semi-infinite programs, Part II,  
*Optimisacija* **44** (61) (1988) 64-81, Russian Acad. of Science (in Russian)
- [30] Methods of feasible directions for solving semi-infinite programs, Part I,  
*Optimisacija* **43** (60) (1988) 62-73, Russian Acad. of Science (in Russian)
- [29] The efficiency of a method of feasible directions for solving variational inequalities,  
*Lecture Notes in Economic and Mathematical Systems* **294** (1987) 379-400 (co-author H. Kirsten)
- [28] Semi-infinite Optimierung - eine Übersicht über Theorie, Lösungsverfahren und Anwendungen,  
*Mitteilungen d. Mathem. Gesellschaft* **4** (1986) 20-34
- [27] *Lexikon Optimierung und optimale Steuerung*,  
Akademie Verlag Berlin, 1986 (co-editors: A. Göpfert, A. Bittner, K.-H. Elster and J. Piehler)
- [26] Descent methods for solving stationary variational inequalities, *Optimization - Theory, Methods and Applications* **1** (1985) 286-294, Dum Techniky CSVTS, Czech. Acad. of Sci., Praha
- [25] Semi-infinite programming problems,  
*Mathem. Control Theory*, Banach Center Publ. **14** (1985) 543-554, Pol. Acad. of Sci., Warsawa
- [24] On a method of feasible directions for solving variational inequalities,  
*Optimization* **16** (1985) 4, 535-546 (co-author H. Kirsten)
- [23] Methods of feasible directions for solving variational inequalities,  
*Reihe Mathematik, Universität Greifswald* **13** (1985) 49-54
- [22] Verfahren zur Lösung linearer Tschebyscheff Probleme,  
*Wissenschaftliche Zeitschrift TH Leipzig* (1984) 72-78
- [21] On a method of feasible directions for solving obstacle problems,  
*Optimisacija* **34** (51) (1984), 88-100, Russian Acad. of Science (in Russian)
- [20] Zur Optimierung der Mechanismen einer Schneidemaschine,  
*Wissenschaftliche Schriftenreihe TU Chemnitz* **7** (1983) 21-34
- [19] Rechnerunterstützter Entwurf mehrstufiger Stirnradgetriebe mittels dynamischer Optimierung,  
*Maschinenbautechnik* **32** (1983) 3, 118-122

- [18] Über Schnittmethoden zur Lösung konvexer semi-infiniter Optimierungsaufgaben,  
*Seminarberichte Humboldt Universität Berlin* **50** (1983) 339-350
- [17] Methods of feasible directions for semi-infinite programming problems,  
*Wissenschaftliche Informationen, TU Chemnitz* **33** (1982) 1-35
- [16] Eine verallgemeinerte Schnittmethode für konvexe semi-infinite Optimierungsaufgaben,  
*Wissenschaftliche Zeitschrift TU Chemnitz* **3** (1982) 332-338
- [15] Nichtlineare Dekomposition in der Mechanismenoptimierung,  
*Wissenschaftliche Zeitschrift TH Leipzig* **20** (1982) 49-54
- [14] Ein Verfahren der zulässigen Richtungen für das lineare kontinuierliche Tschebyscheff-Problem,  
*Optimization (Mathem. Operationsforschung und Statistik)* **13** (1982) 4, 501-509
- [13] *Lineare semi-infinite Optimierungsaufgaben und ihre Anwendungen in der Approximationstheorie*,  
Wissenschaftliche Schriftenreihe der TU Chemnitz, 1981, Bd.4
- [12] Semi-infinite Optimierung und Anwendungen im Maschinenbau und Bauwesen,  
*Festkörpermekanik* **1** (1980) 23-32
- [11] On the quasi-solution of overdetermined ill-conditioned systems of linear equations and its realization by means of parametric programming,  
*Optimization* ,**11** (1980) 4, 563-578 (co-author B. Hofmann)
- [10] Untersuchungen zur numerischen Lösung semi-infiniter linearer Optimierungsaufgaben,  
Habilschrift, TU Chemnitz, 1979
- [9] Stetigkeitseigenschaften semi-infiniter konvexer Optimierungsaufgaben und Konvergenz von Folgen diskretisierter semi-infiniter Optimierungsaufgaben,  
*Wissenschaftliche Zeitschrift TU Chemnitz* **20** (1979) 577-586
- [8] Fehlerschranken bei diskretisierten semi-infiniten linearen Optimierungsaufgaben,  
*Wissenschaftliche Zeitschrift TU Chemnitz* **20** (1978) 789-795
- [7] Ein Ressourcenaufspaltungsverfahren zur Lösung von linearen Optimierungsaufgaben aus der diskreten Tschebyscheff-Approximation,  
*Wissenschaftliche Zeitschrift TU Chemnitz* **4** (1977) 498-504
- [6] Dekompositionsverfahren zur Lösung großdimensionierter quadratischer Optimierungsaufgaben,  
*Wissenschaftliche Zeitschrift d. TU Chemnitz* **18** (1976) 403-406
- [5] Bemerkungen zur Dekomposition nichtlinearer Optimierungsaufgaben,  
*Mitteilungen d. Mathem. Gesellschaft* **2** (1976) 77- 81
- [4] Zur Dekomposition separabler nichtlinearer Optimierungsaufgaben,  
*Wissenschaftlich. Zeitschrift Hochschule f. Architektur und Bauwesen Weimar* **2** (1975) 22, 245-247
- [3] Über Zerlegungsmethoden zur Lösung großdimensionierter linearer Optimierungsaufgaben,  
*Optimization (Mathem. Operationsforschung und Statistik)* **6** (1975) 15-31
- [2] Über eine Zerlegungsmethode zur Lösung großdimensionierter linearer Optimierungsaufgaben,  
Dissertation, TU Chemnitz, 1972
- [1] Mehrfache Zerlegung linearer Optimierungsaufgaben,  
*Optimization (Mathem. Operationsforschung und Statistik)* **2** (1971) 95-115