A Bibliography of Publications of Luis Vicente

Paul Calamai and Luis Vicente
University of Waterloo
Systems Design Engineering
200 University Ave. W
Waterloo, Ontario N2L 3G1
Canada

Tel: (519) 885-1211 x3182
FAX: +1 519 746 4791

E-mail: (Internet)

25 November 2011
Version 1.05

Abstract

This bibliography records publications about bilevel and multilevel programming and Stackelberg problems when considered as optimization problems – usually called static Stackelberg problems.

We have selected contributions in this area that deal with theory issues (properties, existence of solution, optimality conditions and so on), algorithms and numerical results, software and generation of test problems, applications and complexity issues.

References to be cited should be books, articles published in journals or special volumes and technical reports that are available to the broad research community. Conferences and seminar abstracts are not included.

An older version of this bibliography has been published; see [VC94].

Title word cross-reference

References

Anandalingam:1991:MLP

[AA91] G. Anandalingam and V. Aprey. Multi-level programming and conflict resolution. *European Journal of Operational Research*, 51:233–247, 1991.

Alexandrov:1994:ABO

[AD94] N. Alexandrov and J. E. Dennis. Algorithms for bilevel optimization. Technical Report TR94–34, Rice University, Department of Computational and Applied Mathematics, 1994.

Anandalingam:1992:HOI

[AF92] G. Anandalingam and T. Friesz. Hierarchical optimization: an introduction. *Annals of Operations Research*, 34:1–11, 1992.

Al-Khayyal:1992:GOC

[AKHP92] F. Al-Khayyal, R. Horst, and P. Pardalos. Global optimization of concave functions subject to quadratic constraints: an application in nonlinear bilevel programming. *Annals of Operations Research*, 34:125–147, 1992.

Anandalingam:1983:AIB

[AMPS83] G. Anandalingam, R. Mathieu, L. Pittard, and N. Sinha. Artificial intelligence based approaches for solving hierarchical optimization problems. In R. Sharda, B. Golden, E. Wasil, O. Balci, and W. Stewart, editors, *Impacts of Recent Computer Advances on Operations Research*, pages 289–301. North Holland-Elsevier Science Publishers, Amsterdam, New York, Oxford, 1983.

Anandalingam:1985:AII

[Ana85] G. Anandalingam. An analysis of information and incentives in bi-level programming. In *IEEE 1985 Proceedings of the International Conference on Cybernetics and Society*, pages 925–929, 1985.

Anandalingam:1988:MPM

[Ana88] G. Anandalingam. A mathematical programming model of decentralized multi-level systems.

Journal of the Operational Research Society, 39:1021–1033, 1988.

Aiyoshi:1981:HDS

[AS81] E. Aiyoshi and K. Shimizu. Hierarchical decentralized systems and its new solution by a barrier method. *IEEE Transactions on Systems, Man, and Cybernetics*, 11:444–449, 1981.

Aiyoshi:1984:SMS

[AS84] E. Aiyoshi and K. Shimizu. A solution method for the static constrained Stackelberg problem via penalty method. *IEEE Transactions on Automatic Control*, 29: 1111–1114, 1984.

Anandalingam:1990:SML

[AW90] G. Anandalingam and D. White. A solution method for the linear static Stackelberg problem using penalty functions. *IEEE Transactions on Automatic Control*, 35:1170–1173, 1990.

Ben-Ayed:1988:BLP

[BA88] O. Ben-Ayed. *Bilevel linear programming: analysis and application to the network design problem*. PhD thesis, University of Illinois at Urbana-Champaign, 1988.

Ben-Ayed:1990:BLP

[BA90] O. Ben-Ayed. A bilevel linear programming model applied to the Tunisian inter-regional network design problem. *Revue Tunisienne d'Économie et de Gestion*, 5:235–279, 1990.

Ben-Ayed:1993:BLP

[BA93] O. Ben-Ayed. Bilevel linear programming. *Computers and Operations Research*, 20:485–501, 1993.

Ben-Ayed:1990:CDB

[BAB90] O. Ben-Ayed and C. Blair. Computational difficulties of bilevel linear programming. *Operations Research*, 38:556–560, 1990.

Ben-Ayed:1988:GBL

[BABB88] O. Ben-Ayed, D. Boyce, and C. Blair. A general bilevel linear programming formulation of the network design problem. *Transportation Research*, 22 B:311–318, 1988.

Ben-Ayed:1992:CRW

[BABBL92] O. Ben-Ayed, C. Blair, D. Boyce, and L. LeBlanc. Construction of a real-world bilevel linear programming model of the highway design problem. *Annals of Operations Research*, 34:219–254, 1992.

Bard:1982:GSA

[Bar82] J. Bard. A grid search algorithm for the linear bilevel programming problem. In *Proceedings of the 14th Annual Meeting of the American Institute for Decision Science*, pages 256–258, 1982.

Bard:1983:ASG

[Bar83a] J. Bard. An algorithm for solving the general bilevel programming problem. *Mathematics of Operations Research*, 8:260–272, 1983.

Bard:1983:CMO

[Bar83b] J. Bard. Coordination of a multidivisional organization through two levels of management. *OMEGA*, 11:457–468, 1983.

Bard:1983:EPA

[Bar83c] J. Bard. An efficient point algorithm for a linear two-stage optimization problem. *Operations Research*, 31:670–684, 1983.

Bard:1984:ILT

[Bar84a] J. Bard. An investigation of the linear three level programming problem. *IEEE Transactions on Systems, Man, and Cybernetics*, 14:711–717, 1984.

Bard:1984:OCB

[Bar84b] J. Bard. Optimality conditions for the bilevel programming problem. *Naval Research Logistics Quarterly*, 31:13–26, 1984.

Bard:1985:GAD

[Bar85] J. Bard. Geometric and algorithm developments for a hierarchical planning problem. *European Journal of Operational Research*, 19:372–383, 1985.

Bard:1988:CTL

[Bar88] J. Bard. Convex two-level optimization. *Mathematical Programming*, 40:15–27, 1988.

Bard:1991:SPB

[Bar91] J. Bard. Some properties of the bilevel programming problem. *Journal of Optimization Theory and Applications*, 68:371–378, 1991. Technical Note.

Bi:1991:OCC

[BC91] Z. Bi and P. Calamai. Optimality conditions for a class of bilevel programming problems. Technical Report #191-O-191291, University of Waterloo, Department of Systems Design Engineering, 1991.

Bi:1989:EPF

[BCC89] Z. Bi, P. Calamai, and A. Conn. An exact penalty function approach for the linear bilevel programming problem. Technical Report #167-O-310789, University of Waterloo, Department of Systems Design Engineering, 1989. URL `ftp://dial.uwaterloo.ca/pub/tech_reports`.

Bi:1991:EPF

[BCC91] Z. Bi, P. Calamai, and A. Conn. An exact penalty function approach for the nonlinear bilevel programming problem. Technical Report #180-O-170591, University of Waterloo, Department of Systems Design Engineering, 1991. URL `ftp://dial.uwaterloo.ca/pub/tech_reports`.

Bisschop:1982:IBM

[BCDO82] J. Bisschop, W. Candler, J. Duloy, and G. O'Mara. The indus basin model: a special application of two-level linear programming. *Mathematical Programming Study*, 20:30–38, 1982.

Benson:1989:SPL

[Ben89] H. Benson. On the structure and properties of a linear multilevel programming problem. *Journal of Optimization Theory and Applications*, 60:353–373, 1989.

Bard:1982:ESM

[BF82] J. Bard and J. Falk. An explicit solution to the multi-level programming problem. *Computers and Operations Research*, 9: 77–100, 1982.

Bracken:1974:ETM

[BFM74] J. Bracken, J. Falk, and J. McGill. Equivalence of two mathematical programs with optimization problems in the constraints. *Operations Research*, 22: 1102–1104, 1974.

Bi:1992:NMB

[Bi92] Z. Bi. *Numerical methods for bilevel programming problems*. PhD thesis, University of Waterloo, Department of Systems Design Engineering, 1992.

Bialas:1978:MLP

[BK78] W. Bialas and M. Karwan. Multilevel linear programming. Technical Report 78-1, State University of New York at Buffalo, Operations Research Program, 1978.

Bialas:1982:TLO

[BK82] W. Bialas and M. Karwan. On two-level optimization. *IEEE Transactions on Automatic Control*, 27:211–214, 1982.

Bialas:1984:TLL

[BK84] W. Bialas and M. Karwan. Two-level linear programming. *Management Science*, 30:1004–1020, 1984.

Bialas:1980:PCP

[BKS80] W. Bialas, M. Karwan, and J. Shaw. A parametric complementary pivot approach for two-level linear programming. Technical Report 80-2, State University of New York at Buffalo, Operations Research Program, 1980.

Blair:1992:CCM

[Bla92] C. Blair. The computational complexity of multi-level linear programs. *Annals of Operations Research*, 34:13–19, 1992.

Bracken:1973:MPO

[BM73] J. Bracken and J. McGill. Mathematical programs with optimization problems in the constraints. *Operations Research*, 21:37–44, 1973.

Bracken:1974:DAM

[BM74a] J. Bracken and J. McGill. Defense applications of mathematical programs with optimization problems in the constraints. *Operations Research*, 22:1086–1096, 1974.

Bracken:1974:MSM

[BM74b] J. Bracken and J. McGill. A method for solving mathematical programs with nonlinear programs in the constraints. *Operations Research*, 22:1097–1101, 1974.

Bracken:1978:PMD

[BM78] J. Bracken and J. McGill. Production and marketing decisions with multiple objectives in a competitive environment. *Journal of Optimization Theory and Applications*, 24:449–458, 1978.

Bard:1990:BBA

[BM90] J. Bard and J. Moore. A branch and bound algorithm for the bilevel programming problem. *SIAM Journal on Scientific and Statistical Computing*, 11:281–292, 1990.

Bard:1992:ADB

[BM92] J. Bard and J. Moore. An algorithm for the discrete bilevel programming problem. *Naval Research Logistics*, 39:419–435, 1992.

Candler:1988:LBP

[Can88] W. Candler. A linear bilevel programming algorithm: A comment. *Computers and Operations Research*, 15:297–298, 1988.

Cellis:1985:TRS

[CDT85] M. Cellis, J. Dennis, and R. Tapia. A trust region strategy for nonlinear equality constrained optimization. In P. Boggs, R. Byrd, and R. Schnabel, editors, *Numerical Optimization 1984*, pages 71–82. SIAM Publ., Philadelphia, 1985.

Chen:1991:NBP

[CF91] Y. Chen and M. Florian. The nonlinear bilevel programming problem: a general formulation and optimality conditions. Technical Report CRT-794, Centre de Recherche sur les Transports, 1991.

Chen:1992:GSL

[CF92] Y. Chen and M. Florian. On the geometry structure of linear bilevel programs: a dual approach. Technical Report CRT-867, Centre de Recherche sur les Transports, 1992.

Chen:1995:NBP

[CF95] Y. Chen and M. Florian. The nonlinear bilevel programming problem: formulations, regularity and optimality conditions. *Optimization*, 32:193–209, 1995.

Candler:1981:PRM

[CFAM81] W. Candler, J. Fortuny-Amat, and B. McCarl. The potential role of multilevel programming in agricultural economics. *American Journal of Agricultural Economics*, 63:521–531, 1981.

Chen:1992:DDA

[CFW92] Y. Chen, M. Florian, and S. Wu. A descent dual approach for linear bilevel programs. Technical Report CRT-866, Centre de Recherche sur les Transports, 1992.

Chen:1993:BPP

[Che93] Y. Chen. *Bilevel programming problems: analysis, algorithms and applications*. PhD thesis, Université de Montréal, École Polytechnique, 1993.

Cassidy:1971:EDR

[CKR71] R. Cassidy, M. Kirby, and W. Raike. Efficient distribution of resources through three levels of government. *Management Science*, 17:462–473, 1971.

Candler:1977:MP

[CN77a] W. Candler and R. Norton. Multilevel programming. Technical Report 20, World Bank Development Research Center, Washington D.C., 1977.

Candler:1977:MPD

[CN77b] W. Candler and R. Norton. Multilevel programming and development policy. Technical Report 258, World Bank Development Research Center, Washington D.C., 1977.

Candler:1982:LTL

[CT82] W. Candler and R. Townsley. A linear two-level programming problem. *Computers and Operations Research*, 9:59–76, 1982.

Calamai:1993:GLL

[CV93] P. Calamai and L. Vicente. Generating linear and linear-quadratic bilevel programming problems. *SIAM Journal on Scientific and Statistical Computing*, 14:770–782, 1993. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`.

Calamai:1994:AFSa

[CV94a] P. Calamai and L. Vicente. Algorithm 728: FORTRAN subroutines for generating quadratic bilevel programming problems. *ACM Transactions on Mathematical Software*, 20:120–123, 1994. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`.

Calamai:1994:AFSb

[CV94b] P. Calamai and L. Vicente. Algorithm 728: FORTRAN subroutines for generating quadratic bilevel programming problems. *Collected Algorithms from ACM*, 728-P:1.0–3.0, 1994. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`. Code published in ACM Supplement xxx:1–?, 1994.

Calamai:1994:GQB

[CV94c] P. Calamai and L. Vicente. Generating quadratic bilevel programming problems. *ACM Transactions on Mathematical Software*, 20:103–119, 1994. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`.

Clarke:1988:NOC

[CW88] P. Clarke and A. Westerberg. A note on the optimality conditions for the bilevel programming problem. *Naval Research Logistics*, 35: 413–418, 1988.

Clarke:1990:BPSa

[CW90a] P. Clarke and A. Westerberg. Bilevel programming for steady-state chemical process design - I. Fundamentals and algorithms. *Computers & Chemical Engineering*, 14:87–98, 1990.

Clarke:1990:BPSb

[CW90b] P. Clarke and A. Westerberg. Bilevel programming for steady-state chemical process design - II. Performance study for non-degenerate problems. *Computers & Chemical Engineering*, 14:99–110, 1990.

Dempe:1987:SAL

[Dem87] S. Dempe. A simple algorithm for the linear bilevel programming problem. *Optimization*, 18: 373–385, 1987.

Dempe:1989:OOC

[Dem89] S. Dempe. On one optimality condition for bilevel optimization. *Vestnik Leningrad Gos. University*, pages 10–14, 1989. Serija I, in Russian, translation Vestnik Leningrad University, Math., 22:11–16, 1989.

Dempe:1992:NSO

[Dem92a] S. Dempe. A necessary and a sufficient optimality condition for bilevel programming problems. *Optimization*, 25:341–354, 1992.

Dempe:1992:OCB

[Dem92b] S. Dempe. Optimality conditions for bilevel programming problems. In P. Kall, editor, *System modelling and optimization*, pages 17–24. Springer-Verlag, Berlin, 1992.

deSilva:1978:SFN

[deS78] A. deSilva. *Sensitivity formulas for nonlinear factorable programming and their application to the solution of an implicitly defined optimization model of US crude oil production*. PhD thesis, George Washington University, 1978.

Dirickx:1979:SAM

[DJ79] Y. Dirickx and L. Jennegren. *Systems analysis by multi-level methods: with applications to economics and management*. John Wiley & Sons, New York, London, Sydney, 1979. ISBN 0-471-27626-X. xi + 217 pp. LCCN HD30.25 .D57.

Drissi-Kaitouni:1992:BOD

[DKL92] O. Drissi-Kaitouni and J. T. Lundgren. Bilevel origin-destination matrix estimation using a descent approach. Technical Report LiTH-MAT-R-1992-49, Linköping Institute of Technology, Department of Mathematics, Sweden, 1992.

deSilva:1992:IDO

[dM92] A. deSilva and G. McCormick. Implicitly defined optimization problems. *Annals of Operations Research*, 34:107–124, 1992.

Edmunds:1991:ANB

[EB91] T. Edmunds and J. Bard. Algorithms for nonlinear bilevel mathematical programming. *IEEE Transactions on Systems, Man, and Cybernetics*, 21:83–89, 1991.

Edmunds:1992:AMI

[EB92] T. Edmunds and J. Bard. An algorithm for the mixed-integer nonlinear bilevel programming problem. *Annals of Operations Research*, 34:149–162, 1992.

Edmunds:1988:ANB

[Edm88] T. Edmunds. *Algorithms for nonlinear bilevel mathematical programs*. PhD thesis, University of Texas at Austin, Department of Mechanical Engineering, 1988.

Fortuny-Amat:1981:REI

[FAM81] J. Fortuny-Amat and B. McCarl. A representation and economic interpretation of a two-level programming problem. *Journal of the Operational Research Society*, 32:783–792, 1981.

Florian:1991:BPA

[FC91] M. Florian and Y. Chen. A bilevel programming approach to estimating O-D matrix by traffic counts. Technical Report CRT-750, Centre de Recherche sur les Transports, 1991.

Florian:1993:CDM

[FC93] M. Florian and Y. Chen. A coordinate descent method for bilevel O-D matrix estimation problems. Technical Report CRT-807, Centre de Recherche sur les Transports, 1993.

Friesz:1987:EDO

[FST87] T. Friesz, C. Suwansirikul, and R. Tobin. Equilibrium decomposition optimization: a heuristic for the continuous equilibrium network design problem. *Transportation Science*, 21:254–263, 1987.

Friesz:1990:SAB

[FTCM90] T. Friesz, R. Tobin, H. Cho, and N. Mehta. Sensitivity analysis based heuristic algorithms for mathematical programs with variational inequality constraints. *Mathematical Programming*, 48: 265–284, 1990.

Gallo:1977:BPE

[GÜ77] G. Gallo and A. Ülkücü. Bilinear programming: an exact algorithm. *Mathematical Programming*, 12:173–194, 1977.

Hansen:1992:NBB

[HJS92] P. Hansen, B. Jaumard, and G. Savard. New branch-and-bound rules for linear bilevel programming. *SIAM Journal on Scientific and Statistical Computing*, 13:1194–1217, 1992.

Haurie:1990:TLS

[HLS90] A. Haurie, R. Loulou, and G. Savard. A two-level systems analysis model of power cogeneration under asymmetric pricing. In *Proceedings of IEEE Automatic Control Conference*. San Diego, May 1990.

Haurie:1992:TPG

[HLS92] A. Haurie, R. Loulou, and G. Savard. A two player game model of power cogeneration in new england. *IEEE Transactions on Automatic Control*, 37:1451–1456, 1992.

Hobbs:1992:NBM

[HN92] B. Hobbs and S. Nelson. A nonlinear bilevel model for analysis of electric utility demand-side planning issues. *Annals of Operations Research*, 34:255–274, 1992.

Harker:1988:EOS

[HP88] P. Harker and J.-S. Pang. Existence of optimal solutions to mathematical programs with equilibrium constraints. *Operations Research Letters*, 7:61–64, 1988.

Haurie:1990:NEP

[HSW90] A. Haurie, G. Savard, and D. White. A note on: an efficient point algorithm for a linear two-stage optimization problem. *Operations Research*, 38:553–555, 1990.

Hsu:1989:RLB

[HW89] S. Hsu and U. Wen. A review of linear bilevel programming problems. In *Proceedings of the National Science Council, Republic of China, Part A: Physical Science and Engineering*, volume 13, pages 53–61, 1989.

Ishizuka:1992:DPM

[IA92] Y. Ishizuka and E. Aiyoshi. Double penalty method for bilevel optimization problems. *Annals of Operations Research*, 34:73–88, 1992.

Ishizuka:1988:OCQ

[Ish88] Y. Ishizuka. Optimality conditions for quasi-differentiable programs with applications to two-level optimization. *SIAM Journal on Control and Optimization*, 26:1388–1398, 1988.

Jan:1990:MLN

[JC90] R. Jan and M. Chern. Multi-level nonlinear integer programming. Technical report, Department of Computer and Information Science, National Chiao Tung University, 1990.

Jan:1994:NIB

[JC94] R. Jan and M. Chern. Nonlinear integer bilevel programming. *European Journal of Operational Research*, 72:574–587, 1994.

Jeroslow:1985:PHS

[Jer85] R. Jeroslow. The polynomial hierarchy and a simple model for competitive analysis. *Mathematical Programming*, 32:146–164, 1985.

Judice:1988:SLB

[JF88] J. Júdice and A. Faustino. The solution of the linear bilevel programming problem by using the linear complementarity problem. *Investigação Operacional*, 8:77–95, 1988.

Judice:1992:SLM

[JF92] J. Júdice and A. Faustino. A sequential LCP method for bilevel linear programming. *Annals of Operations Research*, 34:89–106, 1992.

Judice:1994:LQB

[JF94] J. Júdice and A. Faustino. The linear-quadratic bilevel programming problem. *INFOR*, 32:87–98, 1994.

Kolstad:1990:DEC

[KL90] C. Kolstad and L. Lasdon. Derivative evaluation and computational experience with large bilevel mathematical programs. *Journal of Optimization Theory and Applications*, 65:485–499, 1990.

Kocvara:1992:NAS

[KO92] M. Kocvara and J. Outrata. A nondifferentiable approach to the solution of optimum design problems with variational inequalities. In *P. Kall, ed., System Modelling and Optimization*, Lecture Notes in Control and Information Sciences 180, pages 364–373. Springer-Verlag, Berlin, 1992.

Kocvara:1993:NST

[KO93] M. Kocvara and J. Outrata. A numerical solution of two selected shape optimization problems. Technical Report DFG (German Scientific Foundation) Research Report 464, University of Bayreuth, 1993.

Kolstad:1985:RLB

[Kol85] C. Kolstad. A review of the literature on bi-level mathematical programming. Technical Report LA-10284-MS, US-32, Los Alamos National Laboratory, 1985.

Kim:1988:TDN

[KS88] T. Kim and S. Suh. Toward developing a national transportation planning model: a bilevel programming approach for Korea. *Annals of Regional Science*, 22:65–80, 1988.

Leblanc:1986:BPA

[LB86] L. Leblanc and D. Boyce. A bilevel programming algorithm for exact solution of the network design problem with user-optimal flows. *Transportation Research*, 20 B:259–265, 1986.

Luh:1984:TLS

[LCN84] P. Luh, T.-S. Chang, and T. Ning. Three-level Stackelberg decision problems. *IEEE Transactions on Automatic Control*, 29:280–282, 1984.

Liu:1994:COS

[LH94] Y. Liu and S. Hart. Characterizing an optimal solution to the linear bilevel programming problem. *European Journal of Operational Research*, 73:164–166, 1994.

Loridan:1988:AST

[LM88] P. Loridan and J. Morgan. Approximate solutions for two-level optimization problems. In K. Hoffman, J. Hiriart-Urruty, C. Lamerachal, and J. Zowe, editors, *Trends in Mathematical Optimization*, volume 84 of *International Series of Numerical Mathematics*, pages 181–196. Birkhäuser Verlag, Basel, 1988.

Loridan:1989:SSR

[LM89a] P. Loridan and J. Morgan. A sequential stability result for constrained Stackelberg problems. *Richerche di Matematica*, 38:19–32, 1989.

Loridan:1989:TAS

[LM89b] P. Loridan and J. Morgan. A theoretical approximation scheme for Stackelberg problems. *Journal of Optimization Theory and Applications*, 61:95–110, 1989.

Loridan:1989:RTL

[LM89c] P. Loridan and J. Morgan. ϵ-Regularized two-level optimization problems: approximation and existence results. In *Optimization - Fifth French-German Conference*, Lecture Notes in Mathematics 1405, pages 99–113. Springer-Verlag, Berlin, 1989.

Loridan:1989:NRA

[LM89d] P. Loridan and J. Morgan. New results on approximate solutions in two-level optimization. *Optimization*, 20:819–836, 1989.

Lignola:1990:EAR

[LM90a] M. Lignola and J. Morgan. Existence and approximation results for min sup problems. In W. Bühler, G. Feichtinger, R. F. Hartl, F. J. Radermacher, and P. Stähly, editors, *Operations Research Proceedings 1990*, Papers of the 19th Annual Meeting, pages 157–164. Springer-Verlag, Berlin, 1990.

Loridan:1990:SST

[LM90b] P. Loridan and J. Morgan. On strict ϵ-solutions for a two-level optimization problem. In W. Bühler, G. Feichtinger, R. F. Hartl, F. J. Radermacher, and P. Stähly, editors, *Operations Research Proceedings 1990*, Papers of the 19th Annual Meeting, pages 165–172. Springer-Verlag, Berlin, 1990.

Loridan:1990:QCL

[LM90c] P. Loridan and J. Morgan. *Quasi convex lower level problem and applications in two level optimization*, volume 345 of *Lecture Notes in Economics and Mathematical Systems*, pages 325–341. Springer-Verlag, Berlin, 1990.

Loridan:1991:RTL

[LM91] P. Loridan and J. Morgan. Regularizations for two-level optimization problems. In *Advances in optimization*, Proceedings of the 6th French-German Colloquium on Optimization, pages 239–255. Springer-Verlag, Berlin, 1991.

Loridan:1992:LNR

[LM92] P. Loridan and J. Morgan. Least-norm regularization for weak two-level optimization problems. In ?, editor, *?*, volume 107 of *International Series of Numerical Mathematics*, pages 307–318. Birkhäuser Verlag, Basel, 1992.

Lignola:1995:TES

[LM95] M. Lignola and J. Morgan. Topological existence and stability for stackelberg problems. *Journal of Optimization Theory and Applications*, 84:145–169, 1995.

Labbe:1993:BMT

[LMS93] M. Labbé, P. Marcotte, and G. Savard. A bilevel model of taxation and its application to optimal highway policy. Technical report, 1993. Preprint.

Luo:1996:MPE

[LPR96] Z.-Q. Luo, J.-S. Pang, and D. Ralph. *Mathematical Programs with Equilibrium Constraints*. Cambridge University Press, Cambridge, U.K., 1996.

Luo:1993:EPS

[LPRW93] Z.-Q. Luo, J.-S. Pang, D. Ralph, and S. Wu. Exact penalization and stationarity conditions of mathematical programs with equilibrium constraints. Technical report, Department of Electrical and Computer Engineering, McMaster University, 1993.

Luo:1993:EPF

[LPW93] Z.-Q. Luo, J.-S. Pang, and S. Wu. Exact penalty functions for mathematical programs and bilevel programs with analytic constraints. Technical report, Department of Electrical and Computer Engineering, McMaster University, 1993.

Liu:1995:SBL

[LS95] Y. Liu and T. Spencer. Solving a bilevel linear program when the inner decision maker controls few variables. *European Journal of Operational Research*, 81:644–651, 1995.

Marcotte:1983:NOC

[Mar83] P. Marcotte. Network optimization with continuous control parameters. *Transportation Science*, 17:181–197, 1983.

Marcotte:1986:NDP

[Mar86] P. Marcotte. Network design problem with congestion effects: a case of bilevel programming. *Mathematical Programming*, 34:142–162, 1986.

Marcotte:1988:NBP

[Mar88] P. Marcotte. A note on bilevel programming algorithm by LeBlanc and Boyce. *Transportation Research*, 22 B:233–237, 1988.

Moore:1990:MIL

[MB90] J. Moore and J. Bard. The mixed integer linear bilevel programming problem. *Operations Research*, 38:911–921, 1990.

Miller:1992:HAD

[MFT92] T. Miller, T. Friesz, and R. Tobin. Heuristic algorithms for delivered price spatially competitive network facility location problems. *Annals of Operations Research*, 34:177–202, 1992.

Migdalas:1994:WSE

[Mig94] A. Migdalas. When is a Stackelberg equilibrium Pareto optimum? Technical Report LiTH-MAT-R-1994-19, Linköping Institute of Technology, Department of Mathematics, Sweden, 1994.

Morgan:1985:ASP

[ML85] J. Morgan and P. Loridan. Approximation of the Stackelberg problem and applications in control theory. In G. Di Pillo, editor, *Control application of nonlinear programming and optimization: Proceedings of the Fifth IFAC Workshop, Capri, Italy 11 - 14 June*, pages 121–124, 1985.

Marcotte:1992:EIH

[MM92] P. Marcotte and G. Marquis. Efficient implementation of heuristics for the continuous network design problem. *Annals of Operations Research*, 34:163–176, 1992.

Mallozzi:1993:MSS

[MM93] L. Mallozzi and J. Morgan. ϵ-mixed strategies for static continuous-kernel stackelberg games. *Journal of Optimization Theory and Applications*, 78:303–316, 1993.

Mallozzi:1995:WSP

[MM95] L. Mallozzi and J. Morgan. Weak stackelberg problem and mixed solutions under data perturbations. *Optimization*, 32:269–290, 1995.

Mesanovic:1970:THM

[MMT70] M. Mesanovic, D. Macko, and Y. Takahara. *Theory of hierarchical, multilevel systems*. Academic Press, New York, 1970. xiii + 294 pp. LCCN QA3 .M286 v.68, T57.6 .M47.

Moore:1988:EML

[Moo88] J. Moore. *Extensions to the multilevel linear programming problem*. PhD thesis, University of Texas at Austin, Department of Mechanical Engineering, 1988.

Morgan:1988:CWP

[Mor88] J. Morgan. Constrained well-posed two-level optimization problems. In F. H. Clarke, V. F. Dem'yanov, and F. Flannessi, editors, *Nonsmooth optimization and related topics: Proceedings of the Fourth Course of the International School of Mathematics on Nonsmooth Optimization and Related Topics, Italy June 20 - July 1*, pages 307–325, 1988. ISBN 0-306-43247-1. LCCN QA402 .C68 1988.

Mathieu:1994:GAB

[MPA94] R. Mathieu, L. Pittard, and G. Anandalingam. Genetic algorithm based approach to bi-level linear programming. *Recherche opérationelle/Operations Research*, 28:1–21, 1994.

Marcotte:1991:NPO

[MS91] P. Marcotte and G. Savard. A note on the pareto optimality of solutions to the linear bilevel programming problem. *Computers and Operations Research*, 18:355–359, 1991.

Marcotte:1992:NAD

[MS92] P. Marcotte and G. Savard. Novel approaches to the discrimination problem. *ZOR - Methods and Models of Operations Research*, 36:517–545, 1992.

Marcotte:1992:EIP

[MZ92] P. Marcotte and D. Zhu. Exact and inexact penalty methods for the generalized bilevel programming problem. Technical Report

CRT-920, Centre de Recherche sur les Transports, 1992.

Narula:1982:DPS

[NN82] S. Narula and A. Nwosu. A dynamic programming solution for the hierarchical linear programming problem. Technical Report 37–82, Rensselaer Polytechnic Institute, Department of Operations Research and Statistics, 1982.

Narula:1983:TLH

[NN83] S. Narula and A. Nwosu. Two-level hierarchical programming problems. In P. Hansen, editor, *Essays and surveys on multiple criteria decision making*, pages 290–299. Springer-Verlag, Berlin, 1983.

Narula:1985:AST

[NN85] S. Narula and A. Nwosu. An algorithm to solve a two-level resource control pre-emptive hierarchical programming problem. In P. Serafini, editor, *Mathematics of multiple-objective programming*. Springer-Verlag, Berlin, 1985.

Neittaanmaeki:1990:SSO

[NS90] P. Neittaanmäki and A. Stachurski. Solving some optimal control problems using the barrier penalty function method. In H.-J. Sebastian and K. Tammer, editors, *Proceedings of the 14th IFIP Conference on System Modelling and Optimization, Leipzig 1989*, pages 358–367. Springer-Verlag, Berlin, 1990.

Nwosu:1983:PEH

[Nwo83] A. Nwosu. *Pre-emptive hierarchical programming problem: a decentralized decision model*. PhD thesis, Rensselaer Polytechnic Institute, Department of Operations Research and Statistics, 1983.

Oenal:1995:MAA

[ÖDJ95] H. Önal, D. Darmawan, and S. Johnson. A multilevel analysis of agricultural credit distribution in East Java, Indonesia. *Computers and Operations Research*, 22: 227–236, 1995.

Oenal:1992:CEM

[Öna92] H. Önal. Computational experience with a mixed solution method for bilevel linear/quadratic programs. Technical report, University of Illinois at Urbana-Champaign., 1992.

Oenal:1993:MSA

[Öna93] H. Önal. A modified simplex approach for solving bilevel linear programming problems. *European Journal of Operational Research*, 67:126–135, 1993.

Outrata:1990:NSC

[Out90] J. Outrata. On the numerical solution of a class of Stackelberg problems. *ZOR - Methods and Models of Operations Research*, 34:255–277, 1990.

Outrata:1993:NOC

[Out93] J. Outrata. Necessary optimality conditions for Stackelberg problems. *Journal of Optimization*

Theory and Applications, 76:305–320, 1993.

Outrata:1994:OPV

[Out94] J. Outrata. On optimization problems with variational inequality constraints. *SIAM Journal on Optimization*, 4:340–357, 1994.

Outrata:1993:NAO

[OZ93] J. Outrata and J. Zowe. A numerical approach to optimization problems with variational inequality constraints. Technical Report DFG (German Scientific Foundation) Research Report 463, University of Bayreuth, 1993.

Papavassilopoulos:1982:ASS

[Pap82] G. Papavassilopoulos. Algorithms for static Stackelberg games with linear costs and polyhedral constraints. In *Proceedings of the 21st IEEE Conference on Decisions and Control*, pages 647–652, 1982.

Parraga:1981:HPA

[Par81] F. Parraga. *Hierarchical programming and applications to economic policy.* PhD thesis, University of Arizona, Systems and Industrial Engineering Department, 1981.

Shimizu:1981:NCM

[SA81] K. Shimizu and E. Aiyoshi. A new computational method for Stackelberg and min-max problems by use of a penalty method. *IEEE Transactions on Automatic Control*, 26:460–466, 1981.

Shimizu:1985:OCA

[SA85] K. Shimizu and E. Aiyoshi. Optimality conditions and algorithms for parameter design problems with two-level structure. *IEEE Transactions on Automatic Control*, 30:986–993, 1985.

Savard:1989:CPM

[Sav89] G. Savard. *Contributions à la programmation mathématique à deux niveaux.* PhD thesis, Université de Montréal, École Polytechnique, 1989.

Schenk:1980:MPM

[Sch80] G. Schenk. A multilevel programming model for determining regional effluent charges. Master's thesis, State University of New York at Buffalo, Department of Industrial Engineering, 1980.

Segall:1989:BLG

[Seg89] R. Segall. Bi-level geometric programming: a new optimization model. Technical report, Department of Mathematics, University of Lowell, Olsen Hall., 1989.

Suwansirikul:1987:EDO

[SFT87] C. Suwansirikul, T. Friesz, and R. Tobin. Equilibrium decomposed optimization: a heuristic for the continuous equilibrium network design problem. *Transportation Science*, 21:254–263, 1987.

Savard:1994:SDD

[SG94] G. Savard and J. Gauvin. The steepest descent direction for the nonlinear bilevel programming problem. *Operations Research Letters*, 15:275–282, 1994.

Shaw:1980:PCP

[Sha80] J. Shaw. A parametric complementary pivot approach to multilevel programming. Master's thesis, State University of New York at Buffalo, Department of Industrial Engineering, 1980.

Sherali:1984:MLS

[She84] H. Sherali. A multiple leader Stackelberg model and analysis. *Operations Research*, 32:390–404, 1984.

Shimizu:1982:TLD

[Shi82] K. Shimizu. *Two-level decision problems and their new solution methods by a penalty method*, volume 2 of *Control science and technology for the progress of society*, pages 1303–1308. IFAC, 1982.

Simaan:1977:SOT

[Sim77] M. Simaan. Stackelberg optimization of two-level systems. *IEEE Transactions on Systems, Man, and Cybernetics*, 7:554–557, 1977.

Suh:1992:SNB

[SK92] S. Suh and T. Kim. Solving nonlinear bilevel programming models of the equilibrium network design problem: a comparative review. *Annals of Operations Research*, 34:203–218, 1992.

Stackelberg:1952:TME

[Sta52] H. Stackelberg. *The theory of the market economy*. Oxford University Press, New York, Oxford, 1952. 328 pp. LCCN HD35 .S73 1952.

Tammer:1995:TLO

[Tam95] K. Tammer. Two-level optimization with approximate solutions in the lower level. *ZOR - Mathematical Methods of Operations Research*, 41:231–249, 1995.

Tobin:1986:SCF

[TF86] R. Tobin and T. Friesz. Spatial competition facility location models: definition, formulation and solution approach. *Annals of Operations Research*, 6:49–74, 1986.

Tuy:1993:GOA

[TMV93] H. Tuy, A. Migdalas, and P. Värbrand. A global optimization approach for the linear two-level program. *Journal of Global Optimization*, 3:1–23, 1993.

Tuy:1994:QMM

[TMV94] H. Tuy, A. Migdalas, and P. Värbrand. A quasiconcave minimization method for solving linear two-level programs. *Journal of Global Optimization*, 4:243–263, 1994.

Tanino:1984:AST

[TO84] T. Tanino and T. Ogawa. An algorithm for solving two-level convex optimization problems. *International Journal of Systems Science*, 15:163–174, 1984.

uenlue:1987:LBP

[Ünl87] G. Ünlü. A linear bilevel programming algorithm based on bicriteria programming. *Computers and Operations Research*, 14: 173–179, 1987.

Vicente:1994:BMP

[VC94] L. Vicente and P. Calamai. Bilevel and multilevel programming: A bibliography review. *Journal of Global Optimization*, 5:291–306, 1994. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`.

Vicente:1995:GLO

[VC95] L. Vicente and P. Calamai. Geometry and local optimality conditions for bilevel programs with quadratic strictly convex lower levels. In D.-Z. Du and P. M. Pardalos, editors, *Minimax and Applications*, pages 141–151. Kluwer Academic Publishers Group, Dordrecht, The Netherlands, 1995. URL `http://dial.uwaterloo.ca/~phcalama/cpp.html`.

Vicente:1992:BP

[Vic92] L. Vicente. Bilevel programming. Master's thesis, University of Coimbra, Department of Mathematics, 1992. Written in Portuguese.

Vicente:1994:DAQ

[VSJ94] L. Vicente, G. Savard, and J. Júdice. Descent approaches for quadratic bilevel programming. *Journal of Optimization Theory and Applications*, 81:379–399, 1994.

Vicente:1996:DLB

[VSJ96] L. Vicente, G. Savard, and J. Júdice. The discrete linear bilevel programming problem. *Journal of Optimization Theory and Applications*, 89 (??):597–614, 1996. CODEN JOTABN. ISSN 0022-3239.

White:1993:PFA

[WA93] D. White and G. Anandalingam. A penalty function approach for solving bi-level linear programs. *Journal of Global Optimization*, 3:397–419, 1993.

Wen:1986:HAS

[WB86] U. Wen and W. Bialas. The hybrid algorithm for solving the three-level linear programming problem. *Computers and Operations Research*, 13:367–377, 1986.

Wen:1981:MMM

[Wen81a] U. Wen. *Mathematical methods for multilevel linear programming*. PhD thesis, State University of New York at Buffalo, Department of Industrial Engineering, 1981.

Wen:1981:KBA

[Wen81b] U. Wen. The "Kth-Best" algorithm for multilevel programming. Technical report, Department of Operations Research, State University of New York at Buffalo., 1981.

Wen:1983:SPR

[Wen83] U. Wen. A solution procedure for the resource control problem in two-level hierarchical decision processes. *Journal of Chinese Institute of Engineers*, 6:91–97, 1983.

Wen:1989:NLB

[WH89] U. Wen and S. Hsu. A note on a linear bilevel programming algorithm based on bicriteria programming. *Computers and Operations Research*, 16:79–83, 1989.

Wen:1991:LBL

[WH91] U. Wen and S. Hsu. Linear bilevel programming problems - a review. *Journal of the Operational Research Society*, 42:125–133, 1991.

Wen:1992:ESL

[WH92] U. Wen and S. Hsu. Efficient solutions for the linear bilevel programming problem. *European Journal of Operational Research*, 62:354–362, 1992.

Wu:1993:CPM

[WMC93] S. Wu, P. Marcotte, and Y. Chen. A cutting plane method for linear bilevel programs. Technical report, Centre de Recherche sur les Transports, 1993.

Wen:1990:ASM

[WY90] U. Wen and Y. Yang. Algorithms for solving the mixed integer two-level linear programming problem. *Computers and Operations Research*, 17:133–142, 1990.

Ye:1995:NCB

[Ye95] J. Ye. Necessary conditions for bilevel dynamic optimization problems. *SIAM Journal on Control and Optimization*, 33:1208–1223, 1995.

Ye:1993:OCB

[YZ93] J. Ye and D. Zhu. Optimality conditions for bilevel programming problems. Technical Report DMS-618-IR, University of Victoria, Department of Mathematics and Statistics, 1993.

Ye:1993:GBP

[YZZ93] J. Ye, D. Zhu, and Q. Zhu. Generalized bilevel programming problems. Technical Report DMS-646-IR, University of Victoria, Department of Mathematics and Statistics, 1993.