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求解互补问题的一族非单调光滑牛顿法

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A Family of Nonmonotone Smoothing Newton Method for Complementarity Problems

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摘要 基于广义Fischer-Burmeister函数, 在本文我们提出了求解互补问题的一族非单调光滑牛顿法. 该方法的全局和局部收敛性在理想情况下得到了证明, 并且也给出了实验结果.

关键词： 互补问题   一族非单调光滑牛顿法   全局收敛性   局部收敛性

Abstract： In this paper, based on the generalized Fischer-Burmeister function, we propose non-monotone smoothing Newton method for solving the complementarity problem. Global and local convergence of our method are established under reasonable conditions. The preliminary numerical results are also reported.

Key words： complementarity problem   a family of non-monotone smoothing Newton method   global convergence   local convergence

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[1] Chen Bintong, Chen Xiaojun, Christian Kanzow. A Penalized Fischer-Burmeister NCP-function.Mathematical Programming, 2000, 88: 211-216 crossref

[2] Chen Xiaojun, Ye Yinyu. On Homotopy-smoothing Methods for Variational Inequalities. SIAMJournal Control Optimization, 1999, 37: 589-616 crossref

[3] James V, Burke, Xu Song. The Global Linear Convergence of a Noninterior Path-following Algorithmfor Linear Complementarity Problems. Mathematics of Operations Research, 1998, 23: 719-734 crossref

[4] Chen Bintong, Patrick T Harker. Smooth Approximations to Nonlinear Complementarity Problems.SIAM Journal on Optimization, 199 7: 403-420 crossref

[5] Fang Liang. A New One-step Smoothing Newton Method for Nonlinear Complementarity Problemwith p0-function. Applied Mathem and Computation, 2010, 216: 1087-1095 crossref

[6] Chen Xiaojun, Ye Yinyu. On Smoothing Methods for the p0 Matrix Linear Complementarity Problem.SIAM Journal on Optimization, 2000, 11: 341-363

[7] Ma Changfeng, Chen Xiaohong. The Convergence of a One-step Smoothing Newton Method for p0-NCP Based on a New Smoothing NCP-function. Journal of Computational and Applied Mathematics,2008, 216: 1-13

[8] Chen J, Pan S. A Family of NCP Functions and a Descent Method for the Nonlinear ComplementarityProblem. Computational Optimization and Applications, 2008, 40: 389-404

[9] Chen Jein-Shan. The Semismooth-related Properties of a Merit Function and a Descent Method forthe Nonlinear Complementarity Problem. Journal of Global Optimization, 2006, 36

[10] Han Jiye, Xiu Naihua, Qi Houduo. Theories and Algorithms for Nonlinear Complementarity Problems.Shanghai: Shanghai Science and Technology Press, 2006

[11] Patrick T Harker, Pang Jong-Shi. A Damped Newton Method for the Linear Complementarity Problem. In: Computational Solution of Nonlinear Systems of Equations, 1990

[12] Qi Houduo, Qi Liqun, Sun Defeng. Solving KKT Systems via the Trust Region and the ConjugateGradient Methods. Technical Report, Applied Mathematics Research Report AMR99/19, School ofMathematics, University of New South, 1999

[13] Wu Caiying, Chen Guoqing. A Smoothing Conjugate Gradient Algorithm for Nonlinear Complemen-tarity Problems. Journal of System Science and Systems Engineering, 2008, 17

[1] 王永丽, 韩丛英, 李田, 李明强. 求解不等式约束优化问题无严格互补松弛条件的one QP-Free新算法[J]. 应用数学学报, 2013, (1): 1-13.

[2] 王秀玉, 姜兴武, 刘庆怀. 非线性互补问题的组合同伦算法 [J]. 应用数学学报, 2012, (3): 430-440.

[3] 闫晖, 陈兰平. 一个新的具有充分下降性的混合共轭梯度算法[J]. 应用数学学报, 2011, 34(4): 634-643.

[4] 郑邦贵, 殷洪友. 一类广义隐互补问题的外梯度法[J]. 应用数学学报, 2011, 34(4): 734-742.

[5] 孙中波, 段复建. 不等式约束优化的非单调可行信赖域-SQP算法[J]. 应用数学学报, 2011, 34(4): 655-670.

[6] 傅俊义, 王三华. 集值映射的对称向量拟均衡问题[J]. 应用数学学报, 2011, 34(1): 40-49.

[7] 李向利, 刘红卫, 黄亚魁. 求解特定线性互补问题的牛顿KKT内点法[J]. 应用数学学报, 2010, 33(5): 889-899.

[8] 刘金魁, 杜祥林, 王开荣. 两类新的变参数下降算法及收敛性[J]. 应用数学学报, 2010, 33(2): 222-232.

[9] 李向利, 刘红卫, 黄亚魁. 求解特定线性互补问题的牛顿KKT内点法[J]. 应用数学学报, 2010, 33(1): 889-899.