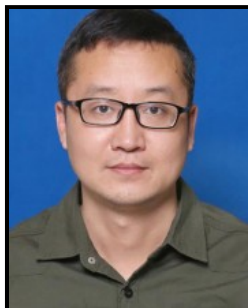




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Computational Mathematics Seminar Series

Strong convergence properties of a modified nonmonotone smoothing algorithm for the SCCP**Jingyong Tang, Xinyang Normal University, China**

Associate Professor

Digital Media Center 1034
September 05, 2017 - 03:30 pm**Abstract:**

The symmetric cone complementarity problem (denoted by SCCP) provides a simple unified framework for various existing complementarity problems and has wide applications. Smoothing algorithms have been successfully applied to solve the SCCP, which in general have the global and local superlinear/quadratic convergence if the solution set of the SCCP is nonempty and bounded. We propose a new nonmonotone smoothing algorithm for solving the SCCP and prove that the algorithm is globally and locally superlinearly/quadratically convergent if the solution set of the SCCP is only nonempty, without requiring its boundedness. This convergence result is stronger than those obtained by most smoothing-type algorithms. Finally, some numerical results are reported.

Speaker's Bio:

Dr. Jingyong Tang received the M.S. degree in Operations Research from Qufu Normal University, China and the Ph. D. degree in Applied Mathematics from Shanghai Jiaotong University, China. He is currently an Associate Professor in School of Mathematics and Statistics, Xinyang Normal University, China. His current research interests include symmetric cone optimization and stochastic optimization.

