Computational Mathematics Seminar Series

A Nonmonotone Smoothing Newton Algorithm for Weighted Complementarity Problem

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Associate Professor

Digital Media Center 1034
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Abstract:
The weighted complementarity problem, often denoted by WCP, significantly extends the general complementarity problem and can be used for modeling a larger class of problems from science and engineering. In this talk, by introducing a one-parametric class of smoothing functions, we will introduce a smoothing Newton algorithm with nonmonotone line search to solve WCP. We will discuss the global convergence as well as local superlinear or quadratic convergence of this algorithm under assumptions weaker than assuming the nonsingularity of the Jacobian. Some promising numerical results will be also reported.

Speaker's Bio:
Hongchao Zhang received his PhD in applied mathematics from University of Florida in 2006. He then had a postdoc position at the Institute for Mathematics and Its Applications (IMA) and IBM T.J. Watson Research Center. He joined LSU as an assistant professor in 2008 and is now an associate professor in the department of mathematics and Center for Computation & Technology (CCT) at LSU. His research interests are nonlinear optimization theory, algorithm and applications.

This lecture has refreshments @ 03:00 pm

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