The Hong Kong Polytechnic University
Department of Applied Mathematics

Seminar
On

On Some Solution Methods for Pseudomonotone Variational Inequalities

by

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Abstract

We develop some results due to N. Thanh-Hao (*Tikhonov Regularization Algorithm for Pseudomonotone Variational Inequalities*, preprint, 2006; to appear in *Acta Mathematica Vietnamica*) and due to M. A. Noor (Proximal Methods for Mixed Variational Inequalities, *Journal of Optimization Theory and Applications*, Vol. 115, pp. 447-452, 2002). The first paper established a convergence theorem for *the Tikhonov regularization method* (TRM) applied to finite-dimensional pseudo-monotone variational inequalities (VIs), thus answered in affirmative one open question stated by F. Facchinei and J.-S. Pang (*Finite-Dimensional Variational Inequalities and Complementarity Problems*, Vols. I, II, Springer, 2003). The second one discussed the application of *the proximal point algorithm* (PPA) to pseudo-monotone VIs. In this paper, new facts on the convergence of TRM and PPA (both the exact and inexact versions of PPA) for pseudomonotone VIs in Hilbert spaces are obtained and a partial answer to a question stated in Ref. 1 is given. As a by-product, we show that the convergence theorem for inexact PPA applied to infinite-dimensional monotone variational inequalities can be proved without using the theory of maximal monotone operators.

Date : **January 18, 2007 (Thursday)**

Time : **4:30 – 5:30 p.m.**

Venue : **Departmental Conference Room HJ610**
The Hong Kong Polytechnic University

* * * ALL ARE WELCOME * * *