The 4th Conference on
Fixed Point Theory and Applications (FPTA2010)
King Mongkut's University of Technology Thonburi (KMUTT)
Bangkok, Thailand

A new hybrid projection method for variational inclusion problems and generalized mixed equilibrium problems

W. Kumam [a,b] **, C. Jaiboon** [c] **, P. Kumam** [b,d,*] **, A. Singta** [a,†]

[a] Department of Mathematics and Computer Science Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi (RMUTT), Pathumthani, Thailand
[b] Centre of Excellence in Mathematics, CHE, Si Ayutthaya Rd., Bangkok, Thailand
[c] Department of Mathematics, Faculty of Liberal Arts, Rajamangala University of Technology Rattanakosin (RMUTR), Bangkok, Thailand
[d] Department of Mathematics, King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

*Corresponding author, e-mail : poom.kum@kmutt.ac.th
†Presenting author

ABSTRACT: The purpose of this paper is to consider a shrinking projection method for finding a common element of the set of solutions of generalized mixed equilibrium problems, the set of fixed points of a finite family of quasi-nonexpansive mappings and the set of solutions of variational inclusion problems. Then, we prove a strong convergence theorem of the iterative sequence generated by the shrinking projection method under some suitable conditions in a real Hilbert space. Our results improve and extend recent results announced by Peng et al. (2008), Takahashi et al. (2008), Takahashi and Takahashi (2008) and many others.

KEYWORDS: Generalized mixed equilibrium problem, Fixed point, Variational inequality, Nonexpansive mapping, Inverse-strongly monotone mapping.

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This project was supported by the National Research Council of Thailand to RMUTT/ 2009–2010.

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