A Subgradient Algorithm for a Class of Nonlinear Split Feasibility Problems

L. H. Yen[1], **N. T. T. Huyen**[2], **and L. D. Muu**[3]

Abstract: In this talk, we propose an algorithm for solving the split feasibility problem $x \in C, Ax \in Q$ with C being the solution set of an equilibrium problem and A can be nonlinear. The proposed algorithm is a combination of the projection method for the equilibrium problem and the gradient method for the inclusion $Ax \in Q$. The convergence of the algorithm is investigated. A numerical example for a jointly constrained Nash equilibrium model is provided to demonstrate the behavior of the algorithm.

[1] Institute of Mathematics
Vietnam Academy of Science and Technology
18 Hoang Quoc Viet Road, Cau Giay District, 10307 Hanoi, Vietnam
lhyen@math.ac.vn

[2] Departement of Mathematics and Informatics
Thainguyen University of Science
Tan Thinh District, Thai Nguyen, Vietnam
thanhhuyenhb@gmail.com

[3] TIMAS, Thang Long University and Institute of Mathematics
Vietnam Academy of Science and Technology
18 Hoang Quoc Viet Road, Cau Giay District, 10307 Hanoi, Vietnam
ldmuu@math.ac.vn