

Iterative Methods for Generalized Split Feasibility Problems in Nonlinear Analysis

Wataru Takahashi

Department of Mathematical and Computing Sciences

Tokyo Institute of Technology

Tokyo 152-8552, Japan

and

Keio Research and Education Center for Natural Sciences

Keio University

Yokohama 223-8521, Japan

and

Department of Applied Mathematics

National Sun Yat-sen University

Kaohsiung 80424, Taiwan

E-mail: wataru@is.titech.ac.jp

Abstract

In this talk, motivated by the idea of the split feasibility problem and results for solving the problem, we consider generalized split feasibility problems. Then, using nonlinear analysis, we establish weak and strong convergence theorems which are related to the problems. As applications, we get well-known and new weak and strong convergence theorems which are connected with fixed point problem, split feasibility problem and equilibrium problem.

Keywords and phrases: Generalized hybrid mapping, maximal monotone operator, inverse strongly monotone mapping, fixed point, split feasibility problem, equilibrium problem, iteration procedure.