The equilibrium problem: a unified approach to optimization, minimax problems (game theory), variational inequalities and other interesting problems

Abstract: First we emphasize the importance of the equilibrium problem in nonlinear analysis and in several applied fields by presenting its most important particular cases: scalar and vector optimization problems, saddlepoint (minimax) problems, variational inequalities, Nash equilibria problems, complementarity problems, fixed point problems and Kirszbraun's problem. Then, we present some classical and new results concerning the existence of solutions of equilibrium problems, discussing their most common proof techniques.