

CONVERGENCE OF APPROXIMATING CURVES FOR MONOTONE
INCLUSIONS AND THEIR ASSOCIATED DYNAMICAL SYSTEMS

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A classical tool in nonlinear analysis is the notion of an approximating curve, whereby a particular solution to a nonuniquely solvable problem is obtained as the limit of the solutions to uniquely solvable perturbed problems. We first introduce and analyze new types of approximating curves for monotone inclusion problems and nonexpansive fixed point problems in Hilbert spaces. The solution attained by these curves solves a strictly monotone variational inequality over the original solution set. We then investigate the convergence of associated dynamical systems. Various special cases and applications are discussed.

This talk is based on joint work with S. Hirstoaga at Paris 6.