

Editorial

Advance in Nonlinear Analysis: Algorithm, Convergence, and Applications

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We are glad to achieve this special issue. This special issue was opened in late November of 2012 and closed in early April of 2013. There were 72 submissions in total and 27 of them were accepted for publication after strict reviews, which gave important developments in nonlinear analysis and its applications. The accepted rate of papers is 37.5 percent.

The topics of the accepted 27 articles cover the area from theory to real applications. This special issue mainly concentrates on some latest developments in nonlinear analysis and its applications with a particular emphasis. With the help of linear and nonlinear functional analysis, various algorithms and their analyzed techniques of convergence presented some new methods of solving some nonlinear problems. Moreover, some of them gave real applications and numerical examples. These are our main aims of sponsoring this special issue.

The article by Y. Ren et al. studies the common fixed point theorems for nonlinear contractions in dislocated metric spaces. The article by F. Gu and Y. Yin proved a common fixed point theorem for three pairs of weakly compatible self-maps satisfying a new contractive condition in the framework of a generalized metric space by means of the common (E, A) property. The article by M. De la Sen showed fixed points and best proximity points of a class of the so-called generalized point-dependent (K, λ) -hybrid p -cyclic self-mappings relative to a Bregman distance and obtained the weak convergence results of certain average sequences.

The article by Y. Dang and Y. Gao proposed an inertial iterative algorithm for solving the split common fixed-point problem for quasinonexpansive mappings and proved the asymptotical convergence of the algorithm under some

suitable conditions. The article by N. Hussain et al. introduced a new iterative scheme called Jungck-CR iterative scheme and studied the stability and strong convergence of this iterative scheme for a pair of nonself-mappings. The article by S. Wang and S. M. Kang introduced the concept of Bregman asymptotically quasinonexpansive mappings and constructed an iterative scheme to find a common element of the set of solutions of an equilibrium problem and the set of common fixed points of a countable family of Bregman asymptotically quasinonexpansive mappings in reflexive Banach spaces. The article by Y. Wang and W. Xuan some strong convergence theorems for a common fixed point of a finite family of relatively nonexpansive mappings by using a new hybrid iterative method in mathematical programming and the generalized projection method in a Banach space.

The article by H. Zegeye and N. Shahzad introduced an iterative process and proved that the iterative sequence converged strongly to solutions of a certain variational inequity problem for η -inverse strongly accretive mappings in the set of common fixed points of finite family of strictly pseudocontractive mappings in Banach spaces. The other article by the same authors studied an iterative process which converges strongly to a zero of a finite sum of monotone mappings. The article by H. Du obtained the strong convergence of modified Mann-Halpern algorithms for finding the fixed points of pseudocontractive mappings. The article by J. S. Jung showed strong convergence of an iterative sequence defined by a continuous pseudocontractive mapping and a continuous bounded strongly pseudocontractive mapping.