



**STRONG AND WEAK CONVERGENCE THEOREMS FOR  
SPLIT COMMON FIXED PROBLEM OF ASYMPTOTICALLY  
QUASI-NONEXPANSIVE MAPPINGS**

Li-Juan Qin, Lin Wang and Zhaoli Ma

**Abstract**

An iterative algorithm is introduced to solve the split common fixed point problems for asymptotically quasi-nonexpansive mappings in Hilbert spaces. The strong and weak convergence of the presented algorithm to some split common fixed point are obtained. The results presented in this paper improve and extend some recent results of Moudafi [Nonlinear Anal. 74 (2011), 4083-4087], Xu [Inverse Problems 26 (2010), 105018], Yang [Inverse Problems 20 (2004), 1261-1266] and others.

**Keywords and phrases:** split common fixed point problem, asymptotically quasi-nonexpansive mapping, algorithm, convergence, Hilbert space.

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