FIXED POINT APPROXIMATION OF COUNTABLY INFINITE FAMILY OF NONEXPANSIVE MAPPINGS

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Abstract: In this paper, we propose an iterative algorithm and then prove the strong convergence of proposed algorithm in framework of CAT(0) space and Hilbert space for approximating the common fixed point of countably infinite family of nonexpansive mappings and minimizer of proper, convex, lower semicontinuous function. Then we implement the proposed algorithm to solve constrained minimization problem and system of linear equations. Our results genaralize the results of Phuengrattana *et al.* [36] and Suparatulatorn *et al.* [43].

Keywords and Phrases: Proximal point algorithm, CAT(0) spaces, nonexpansive mappings, constrained convex minimization problems, system of linear equations.

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