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Weak and strong convergence of generalized proximal point algorithms

In this talk, we first present a framework of generalized proximal point algorithms associated with a maximally monotone operator. We indicate sufficient conditions on the regularization and relaxation parameters of generalized proximal point algorithms for the equivalence of the boundedness of the sequence of iterations generated by this algorithm and the non-emptiness of the zero set of the maximally monotone operator, and for the weak and strong convergence of the algorithm. Improvements of our results are illustrated by comparing our results with related known ones.