Summary: In this paper, we prove a sufficient condition that every nonempty closed convex bounded pair $(M, N)$ in a reflexive Banach space $B$ satisfying Opial’s condition has proximal normal structure. We analyze the relatively nonexpansive self-mapping $T$ on $M \cup N$ satisfying $T(M) \subseteq M$ and $T(N) \subseteq N$, to show that Ishikawa’s and Halpern’s iteration converges to the best proximity point. Also, we prove that under relatively isometry self-mapping $T$ on $M \cup N$ satisfying $T(N) \subseteq N$ and $T(M) \subseteq M$, Ishikawa’s iteration converges to the best proximity point in the collection of all Chebyshev centers of $N$ relative to $M$. Some illustrative examples are provided to support our results.

MSC:

46B20 Geometry and structure of normed linear spaces
47J26 Fixed-point iterations

References:

[19] Hussain, A.; Abbas, M.; Adeel, M.; Kanwal, T., Best proximity point results for almost contraction and application to nonlinear...
differential equation, Sahand Communications in Mathematical Analysis, 17, 2, 199 (2020)


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.