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Applications of the Best Approximation Operator to *-Nonexpansive Maps in Hilbert Spaces

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ABSTRACT

The notion of a *-nonexpansive multivalued map is different from that of a continuous map. We give some Ky Fan type best approximation theorems for *-nonexpansive mappings defined on closed convex unbounded subsets of a Hilbert space. As applications of our theorems, we derive fixed point results under many boundary conditions. Approximating sequences to the fixed points are also constructed.

Key Words: Best approximation; Fixed point; Hilbert space; *-Nonexpansive map; Weakly inward map.

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