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Proximinality and remotality in normed linear spaces. (English) Zbl 1408.41032  

Summary: In this paper, we consider “farthest points” and “nearest points” in normed linear spaces. We obtain necessary and sufficient conditions for subsets of normed linear spaces to be proximinal, Chebyshev, remotal and uniquely remotal.

MSC:

- 41A65 Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)
- 41A52 Uniqueness of best approximation
- 46N10 Applications of functional analysis in optimization, convex analysis, mathematical programming, economics

Keywords:

- nearest points; proximinal sets; farthest points; remotal sets; uniquely remotal sets; co-proximinal sets; Chebyshev sets; co-Chebyshev sets

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