A metric linear space \((X,d)\) (\(d\) is translation invariant) is called strictly convex if \(d(x,0) \leq r, d(y,0) \leq r\) implies \(d((x + y)/2,0) < r\). The author proves some theorems on Chebyshev subsets in a strictly convex metric linear space \(X\) and on fixed point properties of \(X\). He also proves that a strictly convex metric linear space is round, i.e. the closure of every open ball is the corresponding closed ball.

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MSC:

41A65 Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)
46A55 Convex sets in topological linear spaces; Choquet theory

Keywords:
round space; Chebyshev subsets