Narang, T. D.
Best approximation and best simultaneous approximation in ultrametric spaces. (English)

A metric space $X$ is ultrametric if the metric $d$ satisfies the strong triangle inequality $d(x, y) \leq \max\{d(x, z), d(z, y)\}$ for every $x, y, z \in X$. The author considers various best approximation problems in an ultrametric setting and their relationship with the proximinal property. In particular it is shown that: An approximately pseudo-compact subset of an ultrametric space is proximinal; There exists a best simultaneous approximation to a bounded subset $B \subset X$ in $A \subset X$ if and only if $A$ is proximinal.

Reviewer: T.V.Tonev (Missoula)

MSC:
41A65 Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)
41A50 Best approximation, Chebyshev systems

Keywords:
ultrametric space; best approximation; proximinal

Full Text: DOI