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**Fixed-point property of strongly super weakly compact generated Banach spaces.** (Chinese. English summary) [Zbl 1389.46023]


Summary: The fixed-point property of Banach spaces is studied and a new proof method is given. Firstly, the ultraproduct method is used to prove that the uniformly $G$-differentiable norms are equivalent under convex sets and its ultraproduct. Then, it is proven that convex sets have the fixed-point property for nonexpansive mappings in the uniformly $G$-differentiable norm sense. Finally, it is shown that every strongly super weakly compact generated Banach space can be renormed so that every weakly compact convex set has the super fixed-point property.

**MSC:**

- 46B20  Geometry and structure of normed linear spaces
- 47H10  Fixed-point theorems

**Keywords:**

- super weakly compact set; fixed-point property; Banach space

**Full Text:** DOI