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## On Generic Well-Posedness of Restricted Chebyshev Center Problems in Banach Spaces

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摘要

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## On Generic Well-Posedness of Restricted Chebyshev Center Problems in Banach Spaces

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**Abstract** Let  $\text{scr B}$  (resp.  $\text{scr K}$ ,  $\text{scr BC}$ ,  $\text{scr KC}$ ) denote the set of all nonempty bounded (resp. compact, bounded convex, compact convex) closed subsets of the Banach space  $X$ , endowed with the Hausdorff metric, and let  $G$  be a nonempty relatively weakly compact closed subset of  $X$ . Let  $\{\text{scr B}\}^o$  stand for the set of all  $F \in \{\text{scr B}\}$  such that the problem  $(F, G)$  is well-posed. We proved that, if  $X$  is strictly convex and Kadec, the set  $\{\text{scr KC}\} \cap \{\text{scr B}\}^o$  is a dense  $G_{\delta}$ -subset of  $\{\text{scr KC}\} \setminus G$ . Furthermore, if  $X$  is a uniformly convex Banach space, we will prove more, namely that the set  $\{\text{scr B}\} \setminus G$  (resp.  $\{\text{scr K}\} \setminus G$ ,  $\{\text{scr BC}\} \setminus G$ ,  $\{\text{scr KC}\} \setminus G$ ) is  $\sigma$ -porous in  $\{\text{scr B}\}$  (resp.  $\{\text{scr K}\}$ ,  $\{\text{scr BC}\}$ ,  $\{\text{scr KC}\}$ ). Moreover, we prove that for most (in the sense of the Baire category) closed bounded subsets  $G$  of  $X$ , the set  $\{\text{scr K}\} \setminus G$  is dense and uncountable in  $\{\text{scr K}\}$ .

**Key words** [Chebyshev center](#) [Well-posedness](#) [\\$\sigma\\$-porous](#) [Ambiguous loci](#)

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