Higher Connectedness Properties of Support Points and Functionals of Convex Sets
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Abstract. We prove that the set of all support points of a nonempty closed convex bounded set $C$ in a real infinite-dimensional Banach space $X$ is AR(\(\sigma\)-compact) and contractible. Under suitable conditions, similar results are proved also for the set of all support functionals of $C$ and for the domain, the graph and the range of the subdifferential map of a proper convex l.s.c. function on $X$. 