Summary: The investigations of the smooth points in the spaces of continuous function were started by Banach in 1932 considering function space $C(\Omega)$. Singer and Sundaresan extended the result of Banach to the space of vector valued continuous functions $C(\mathcal{T}, E)$, where $\mathcal{T}$ is a compact metric space. The aim of this paper is to present a description of semi-smooth points in spaces of continuous functions $C_0(\mathcal{T}, E)$ (instead of smooth points). Moreover, we also find necessary and sufficient condition for semi-smoothness in the general case.

MSC:

46B20 Geometry and structure of normed linear spaces
46C50 Generalizations of inner products (semi-inner products, partial inner products, etc.)
46B25 Classical Banach spaces in the general theory

Keywords:
normed space; smoothness; semi-smoothness; function space; norm derivatives

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References:


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