

Baire Δ_1 -spaces and Asplund spaces $C_k(X)$ over Δ_1 -spaces X

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ABSTRACT

Namioka-Phelps theorem says that for a compact space X , the Banach space $C(X)$ is Asplund if and only if the space X is scattered if and only if $C(X)$ does not contain an isomorphic copy of the sequence space ℓ_1 . We extend this result to the space of continuous real-valued functions endowed with the compact-open topology $C_k(X)$ for several natural classes of non-compact Tychonoff spaces X , and the concept of Δ_1 -spaces (recently introduced and studied) will be shown to be applicable for this research. We discuss also recent results about Baire ω -resolvable spaces which are Δ_1 -spaces.