

An application of the great Baire theorem

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Abstract

Using the Great Baire Theorem we show that every closed subset of a \mathbb{R}^∞ -completely metrizable and \mathbb{R}^∞ -zero-dimensional subset of ℓ_2 is somewhere ℓ_2 -zero-dimensional. As an application we obtain a result of Dijkstra-van Mill-Steprāns. Consequences for the topological classification of Erdős-like subgroups in Banach spaces will be given.