

SOME PROPERTIES OF \mathcal{I} -LUZIN SETS

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We consider a notion of \mathcal{I} -Luzin set which generalizes the classic notion of Luzin set and Sierpiński set on Euclidean spaces. We show that there is a translation invariant σ -ideal \mathcal{I} with Borel base for which \mathcal{I} -Luzin set can be \mathcal{I} -measurable. If we additionally assume that \mathcal{I} has Smital property (or its weaker version) then \mathcal{I} -Luzin sets are \mathcal{I} -nonmeasurable. We give some constructions of \mathcal{I} -Luzin sets involving additive structure of \mathbb{R}^n . Moreover, we show that if L is a Luzin set and S is a Sierpiński set then the complex sum $L + S$ cannot be a Bernstein set.

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