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An abstract and generalized approach to the Vitali theorem on nonmeasurable sets. (English)

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Summary: Here we present abstract formulations of two theorems of *S. Solecki* [Proc. Am. Math. Soc. 119, No. 1, 115–124 (1993; Zbl 0784.28006); *ibid.* 897–902 (1993; Zbl 0795.28010)] which deal with some generalizations of the classical Vitali theorem on nonmeasurable sets in spaces with transformation groups.

MSC:

28A05 Classes of sets (Borel fields, σ -rings, etc.), measurable sets, Suslin sets, analytic sets

28D05 Measure-preserving transformations

Keywords:

spaces with transformation groups; k -additive measurable structure; k -small system; upper semicontinuous k -small system; k -additive algebra admissible with respect to a k -small system

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