

[de la Rue, Thierry](#)

**Lebesgue spaces. (Espaces de Lebesgue.)** (French) [Zbl 0788.60001](#)

Azéma, J. (ed.) et al., Séminaire de probabilités XXVII. Berlin: Springer-Verlag. Lect. Notes Math. 1557, 15-21 (1993).

We give elementary proofs of some essential results concerning Lebesgue spaces. In particular, we prove the following well-known theorem: If a countable family of measurable sets separates points in a Lebesgue space, then it generates the whole  $\sigma$ -algebra. – For this, we give a new definition of a Lebesgue space, related to the inner regularity of a probability measure. Although equivalent to the one given by *V. A. Rokhlin* in his famous paper [Am. Math. Soc., Transl., II. Ser. 10, 2-53 (1962); translation from Math. Sb., N. Ser. 25(67), 107-150 (1949; [Zbl 0033.169](#))], this definition turns out to be more convenient for the study of Lebesgue spaces.

For the entire collection see [\[Zbl 0780.00013\]](#).

Reviewer: T.de la Rue (Mont-Saint-Aignan)

**MSC:**

[60A10](#) Probabilistic measure theory  
[60B05](#) Probability measures on topological spaces

Cited in **7** Documents

**Keywords:**

[Polish space](#); [basis of a Lebesgue space](#); [inner regularity of a probability measure](#); [Lebesgue spaces](#)

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