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ON CERTAIN SUBCLASSES OF THE CLASSES L_c

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Abstract: Loève in [5] introduced the classes L_c associated with number c, $c \in \mathbf{R}$, as the classes of probability measures satisfying the condition (1). Many authors investigated those classes ([2], [5]-[9], [20], [21]). In this paper we consider certain subclasses $L_{c_1,\ldots,c_k}, L_{c_1(k)}$ of the classes L_c. We prove that they coincide with the classes of distributions of series of some random variables and with the classes of limit distributions of some normed sums. We give a characterization of certain classes $D_{c_1,\ldots,c_k}$ associated with $L_{c_1,\ldots,c_k}$.

Urbanik in [18] introduced the concept of the decomposability semigroup associated with probability measure P, as the set of all numbers c, such that $P \in L_c$ ([11]-[14]). The class L of selfdecomposable distributions coincides with the class of probability measures P such that $D(P) \supset [0,1]$. The class L_m, $m \geq 1$, of multiply selfdecomposable distributions may be described as the class of probability measures P such that $P \in L_{c_1,\ldots,c_m}$, for every $c_1, \ldots, c_m \in [0,1]$, or in terms of multiply decomposability semigroups it is equivalent to the inclusion $D_m(P) \supset [0,1]^m$, where $D_m(P)$ is the multiply decomposability semigroup defined by the formula $D_m(P) = \{(c_1, \ldots, c_m); P \in L_{c_1,\ldots,c_m}$ ([3], [4], [10], [15]-[17], [19]).

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