

# OPERATOR-LIMIT DISTRIBUTIONS IN PROBABILITY THEORY

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The central theme of that monograph are limit distributions in a scheme

$$(1) \quad A_n(X_1 + X_2 + \dots + X_n) + x_n, \quad n = 1, 2, \dots$$

where  $X_i$ 's are  $\mathbb{R}^d$ -valued independent random vectors,  $A_i$ 's are MATRICES (linear bounded operators) on  $\mathbb{R}^d$  and  $x_i$ 's are deterministic  $\mathbb{R}^d$  shift vectors.

If in (1) one assumes that the triangular array  $A_n X_k$ ,  $1 \leq k \leq n$ ,  $n \geq 1$ , is uniformly infinitesimal then limit distributions are called *operator-selfdecomposable*. This class includes the classical selfdecomposable measures.

For independent and identically distributed  $X_i$ 's limiting laws are called *operator-stable* measures. Among them we have the classical and well know stable measures.

For reviews, please, see the following:

- 1) MR 95b:60018
- 2) Bull. American Mathematical Society, **32**, No 2, April 1995; p. 278.
- 3) Siam Review, **37**, No 1, March 1995; p. 131.