

Chatterji, S. D.

A subsequence principle in probability theory. (English) Zbl 0571.60028
Jahresber. Dtsch. Math.-Ver. 87, 91-107 (1985).

A survey paper by an author who contributed a large part of the theory of the so-called subsequence principle. Let (Ω, Σ, μ) be a measure space and $g_n, n \in \mathbb{N}$, a sequence of measurable functions $\Omega \rightarrow \mathbb{R}$. Under certain conditions there is a subsequence of $\{g_n\}$ behaving as a sequence of exchangeable or even i.i.d. random variables. E.g. if $\int |g_n| dP \leq M$ there is a subsequence $\{f_n\}$ of $\{g_n\}$ such that any subsequence of $\{f_n\}$ satisfies the strong law of large numbers. If $\int |g_n|^2 dP \leq M$, a similar result holds with central limit theorem and log log law.

The development of the theory is described, especially the fundamental results of *D. J. Aldous*, see the foregoing review, [Zbl 0571.60027](#). The connection with gap theorems and results on functions $g_n(x) = f(\lambda_n x)$, $\Omega = \mathbb{R}$, $\lambda_{n+1}/\lambda_n \geq q > 1$, is described. The state of the problem for strongly measurable $g_n : \Omega \rightarrow E$ a Banach space, is reviewed.

Reviewer: [A.J.Stam](#)

MSC:

[60Fxx](#) Limit theorems in probability theory

[60B12](#) Limit theorems for vector-valued random variables (infinite-dimensional case)

Cited in **2** Reviews
Cited in **4** Documents

Keywords:

subsequence principle; exchangeable; strong law of large numbers; central limit theorem