

Mean convergence theorems and weak laws of large numbers for double arrays of random elements in Banach spaces

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Abstract: For a double array of random elements $\{V_{mn}; m \geq 1, n \geq 1\}$ in a real separable Banach space, some mean convergence theorems and weak laws of large numbers are established. For the mean convergence results, conditions are provided under which The weak law results provide conditions for in probability where $\{T_m; m \geq 1\}$ and $\{T_n; n \geq 1\}$ are sequences of positive integer-valued random variables, $\{k_{mn}; m \geq 1, n \geq 1\}$ is an array of positive integers. The sharpness of the results is illustrated by examples. © 2010 The Korean Mathematical Society.

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