

On the strong law of large numbers for d -dimensional arrays of random variables

Thanh Le Van, Vinh University

Abstract

In this paper, we provide a necessary and sufficient condition for general d -dimensional arrays of random variables to satisfy strong law of large numbers. Then, we apply the result to obtain some strong laws of large numbers for d -dimensional arrays of blockwise independent and blockwise orthogonal random variables.

Full text: [PDF](#) | [PostScript](#)

Pages: 434-441

Published on: November 21, 2007

Bibliography

1. Chobanyan, S., Levental, S., and Mandrekar, V. Prokhorov blocks and strong law of large numbers under rearrangements. *J. Theoret. Probab.* 17 (2004), 647-672. [MR2091554](#)
2. Chow, Y. S. and Teicher, H. *Probability Theory: Independence, Interchangeability, Martingales*, 3rd Ed. Springer-Verlag, New York, 1997. [MR1476912](#)
3. Chung, K. L. Note on some strong laws of large numbers. *Amer. J. Math.* 69 (1947), 189-192. [MR0019853](#)
4. Gaposhkin, V.F. On the strong law of large numbers for blockwise independent and blockwise orthogonal random variables. *Teor. Veroyatnost. i Primenen.* 39 (1994), 804-812 (in Russian). English translation in *Theory Probab. Appl.* 39 (1994), 667-684 (1995). [MR1347654](#)
5. Gut, A. Marcinkiewicz laws and convergence rates in the law of large numbers for random variables with multidimensional indices. *Ann. Probab.* 6 (1978), 469-482. [MR0494431](#)
6. Mikosch, T. and Norvaiša, R. Strong laws of large numbers for fields of Banach space valued random variables. *Probab. Th. Rel. Fields.* 74 (1987), 241-253. [MR0871253](#)
7. Moricz, F. Moment inequalities for the maximum of partial sums of random fields. *Acta Sci. Math.* 39 (1977), 353-366. [MR0458535](#)
8. Moricz, F. Strong limit theorems for quasi-orthogonal random fields. *J. Multivariate. Anal.* 30 (1989), 255-278. [MR1015372](#)
9. Moricz, F. Strong limit theorems for blockwise m -dependent and blockwise quasiorthogonal sequences of random variables. *Proc. Amer. Math. Soc.* 101 (1987), 709-715. [MR0911038](#)
10. Smythe, R.T. Strong laws of large numbers for r -dimensional arrays of random variables. *Ann. Probab.* 1 (1973), 164-170. [MR0346881](#)
11. Thanh, L. V. Mean convergence theorems and weak laws of large numbers for double arrays of random variables. *J. Appl. Math. Stochastic Anal.* 2006, Art. ID 49561, 1 - 15.

Research Support Tool

[Capture Cite](#)
[View Metadata](#)
[Printer Friendly](#)

▼ [Context](#)

[Author Address](#)

▼ [Action](#)

[Email Author](#)
[Email Others](#)

