Mathematics > Probability

On possible mixing rates for some strong mixing conditions for N-tuplewise independent random fields

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(Submitted on 19 Jul 2011)

For a given pair of positive integers d and N with $N \geq 2$, for strictly stationary random fields that are indexed by the d-dimensional integer lattice and satisfy N-tuplewise independence, the dependence coefficients associated with the ρ-, ρ'-, and ρ^*-mixing conditions can decay together at an arbitrary rate. Another, closely related result is also established. In particular, these constructions provide classes of examples pertinent to limit theory for random fields that involve such mixing conditions together with certain types of "extra" assumptions on the marginal and bivariate (or N-variate) distributions.

Comments:	16 pages
Subjects:	**Probability (math.PR)**
MSC classes:	60G10, 60G60
Cite as:	**arXiv:1107.3854 [math.PR]**
	(or **arXiv:1107.3854v1 [math.PR]** for this version)

Submission history

From: Richard Bradley [view email]
[v1] Tue, 19 Jul 2011 21:29:32 GMT (15kb)

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