Recent results on weak dependence. Statistical applications.

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Abstract

Many commonly used models for real-world phenomena do not satisfy classical mixing conditions. Modifications for these mixing conditions have therefore been introduced by number of authors. The coefficients under study in this paper measure the dependence between a real-valued random variable X and a σ -algebra \mathcal{M} by considering the gap between the conditional distribution function of X given \mathcal{M} and the distribution of X. Although weaker than usual mixing coefficients, they allow deriving limit theorems and statistical applications.

References

- R. C. Bradley, (2002). Introduction to Strong Mixing Conditions, Volume 1. Technical Report, Department of Mathematics, I. U. Bloomington.
- [2] J. Dedecker and C. Prieur, (2003). Coupling for τ -dependent sequences and applications. Accepted for publication in *J. Theoret. Probab.*
- [3] J. Dedecker and C. Prieur, (2004). New dependence coefficients. Examples and applications to statistics. To appear in *Probab. Theory Relat. Fields*.
- [4] P. Doukhan, (1994). Mixing: properties and examples. Lecture Notes in Statist. 85, Springer-Verlag.
- [5] P. Doukhan and S. Louhichi (1999). A new weak dependence condition and applications to moment inequalities. *Stochastic Process. Appl.* 84 313-342.

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