

A central limit theorem for random fields

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Abstract

A central limit theorem is proved for α -mixing random fields. The sets of locations where the random field is observed become more and more dense in an increasing sequence of domains. The central limit theorem concerns these observations. The limit theorem is applied to obtain asymptotic normality of kernel type density estimators. It turns out that in our setting the covariance structure of the limiting normal distribution can be a combination of those of the continuous parameter and the discrete parameter cases.
