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Abstract

Title: Limit theorems for empirical cluster functionals with applications to statistical inference

Limit theorems for empirical cluster functionals are discussed. Conditions for weak convergence are provided in terms of tail and spectral tail processes and can be verified for a large class of multivariate time series, including geometrically ergodic Markov chains. Applications include asymptotic normality of blocks and runs estimators for the extremal index and other cluster indices. Results for multiplier bootstrap processes are also provided.