

Sun, Shan; Chiang, Ching-Yuan**Limiting behavior of the perturbed empirical distribution functions evaluated at U -statistics for strongly mixing sequences of random variables.** (English) Zbl 0873.62050

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Summary: We prove the almost sure representation, a law of the iterated logarithm and an invariance principle for the statistic $\widehat{F}_n(U_n)$ for a class of strongly mixing sequences of random variables $\{X_i, i \geq 1\}$. Stationarity is not assumed. Here \widehat{F}_n is the perturbed empirical distribution function and U_n is a U -statistic based on X_1, \dots, X_n .

MSC:

- 62G20 Asymptotic properties of nonparametric inference
- 62G30 Order statistics; empirical distribution functions
- 60F17 Functional limit theorems; invariance principles
- 60F15 Strong limit theorems
- 62E20 Asymptotic distribution theory in statistics

Cited in 8 Documents

Keywords:

almost sure representation; law of the iterated logarithm; invariance principle; strongly mixing sequences of random variables; perturbed empirical distribution function; U -statistic

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