ORTHOGONAL SERIES AND LIMIT THEOREMS FOR CANONICAL *U*- AND *V*-STATISTICS OF STATIONARY CONNECTED OBSERVATIONS

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The limit behavior is studied for the distributions of normalized U- and V-statistics of an arbitrary order with *canonical* (degenerate) kernels, based on samples of increasing sizes from a stationary sequence of observations satisfying φ-or α-mixing. The corresponding limit distributions are represented as infinite multilinear forms of a centered Gaussian sequence with a known covariance matrix.

Key words and phrases: stationary sequence of random variables, mixing, multiple orthogonal series, canonical U- and V-statistics.

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