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Sampling properties of U-statistics for a class of stationary nonlinear processes

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Abstract We consider the sampling properties of U-statistics based on a sample of realization from a class of stationary nonlinear processes which include, in particular, linear, bilinear and finite order volterra processes. It is shown that if the size n of the realization tends to infinity then certain normalized versions of the U-statistics tend to be distributed normally with zero means and finite variances.

Keywords Stationary nonlinear processes · U-statistics · Large sample properties