PROBABILITY
AND
MATHEMATICAL STATISTICS
Vol. 38, Fasc. 2 (2013), pp. 317–357

PREDICTION INTERVALS AND REGIONS FOR MULTIVARIATE TIME SERIES MODELS WITH SIEVE BOOTSTRAP

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Abstract: In the paper, the construction of unconditional bootstrap prediction intervals and regions for some class of second order stationary multivariate linear time series models is considered. Our approach uses the sieve bootstrap procedure introduced by Kreiss (1992) and Bühlmann (1997). Basic theoretical results concerning consistency of the bootstrap replications and the bootstrap prediction regions are proved. We present a simulation study comparing the proposed bootstrap methods with the Box–Jenkins approach.

2010 AMS Mathematics Subject Classification: Primary: 62M10, 62M20; Secondary: 62G09, 62G15, 62G05.

Keywords and phrases: Multivariate time series models, vector of time series, sieve bootstrap, prediction regions, simultaneous prediction intervals.