Tracy-Widom law for the largest eigenvalue of sample covariance matrix generated by VARMA

Yangchun Zhang

Harbin Institute of Technology
E-mail: 540013570@qq.com

Abstract: In this paper we derive the Tracy-Widom law for the largest eigenvalue of sample covariance matrix generated by the vector autoregressive moving average model when the dimension is comparable to the sample size. This result is applied to making inference on the vector autoregressive moving average model. Simulations are conducted to demonstrate the finite sample performance of our inference.