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*Smooth Test of Goodness-of-Fit of Normality for the Errors of an ARMA Process with Unknown Mean*

Neyman (1937) derived a goodness-of-fit test for the uniform distribution. This test has been generalized to any distribution by Rayner and Best(1989). Ducharme and Lafaye de Micheaux combined this approach to the Ledwina (1994) data driven principle to find a test for the errors of an ARMA process with known mean. In this work, we generalize the results of Ducharme and Lafaye de Micheaux (2004) for the case of an ARMA process with unknown mean. Some simulations and an application to real data are provided.