Special Issue with papers from the “3rd workshop on Goodness-of-fit and change-point problems”

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Published online: 1 August 2018

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This special issue of METRIKA contains mainly a collection of papers presented at the 3rd Workshop on Goodness-of-Fit and Change-Point problems, which was supported by the German Research Foundation (DFG), and was held at the Church House of the Protestant Academy Baden in Bad Herrenalb in the Black Forest near Karlsruhe, Germany, 8–10 September, 2017. The first workshop in this series took place in 2012 at the University of Sevilla, and the second was held at the National and Kapodistrian University of Athens, 2015. There is already a follow-up event that will take place in 2019 at the University of Trento, Italy. We firmly believe that this series of workshops will become a regular international meeting.

Four of the submitted papers form a subset of all invited papers presented during the workshop, while the articles of Ciupera and Jarůšková, although not presented at the workshop, fit perfectly under the heading of the workshop. All articles were screened through a rigorous refereeing process according to the high standards of METRIKA.

Messer et al. (2018) propose a multiple filter test for multiple changes in the mean and a corresponding algorithm for the estimation of these change points, and they study asymptotics both for the case that all other parameters remain constant and when changes in such parameters can also occur.

Nikitin (2018) deals with two scale-free tests of normality based on a recent characterization of the symmetric normal law. The paper discusses the limiting behavior of the test statistics and obtains local exact Bahadur efficiencies for location, skew and contamination alternatives.

Weiß (2018) considers Pearson’s statistic for testing goodness-of-fit of the residual distributions for a variety of count time series models. The asymptotic distribution is

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obtained both in situations of known time series parameters and cases in which these parameters have to be estimated.

Duan and Wied (2018) develop asymptotics for a residual-based multivariate constant correlation test that does not assume constancy of the marginal variances. They propose a bootstrap approximation for the corresponding critical values, which are not directly available, and they study the small sample behavior of the test both in simulations and for financial data.

Ciupera (2018) considers a monitoring procedure for the detection of changes in the regression parameters in situations of possibly many explanatory variables by making use of adaptive LASSO quantile methods. She derives asymptotics in the no-change situation and proves consistency under alternatives. A simulation study corroborates the findings.

Finally, Jarušková (2018) introduces a generalized least-squares estimator for the change points in the mean of independent vectors, where these change points need not occur simultaneously. The paper discusses the limit behavior of these estimators and compares them in an example with the ones obtained separately without taking the dependence between components into account.

In closing, we wish to sincerely thank the Editors-in-Chief of METRIKA for enabling and managing this special issue.

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