PUBLICATION ETHICS

Journal Cauchy is a peer-reviewed electronic national journal. This statement clarifies ethical behavior of all parties involved in the act of publishing an article in this journal, including the author, the chief editor, the Editorial Board, the peer-reviewer and the publisher (Mathematics Department of Maulana Malik Ibrahim State Islamic University of Malang). This statement is based on COPE's Best Practice Guidelines for Journal Editors.

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Disclosure and conflicts of interest

Unpublished materials disclosed in a submitted manuscript must not be used in an editor's own research without the express written consent of the author.

PREFACE

Cauchy is a national journal published by Mathematics Department, Science and Technology Faculty, Maulana Malik Ibrahim State Islamic University of Malang. This is the second issue of this year. It contains 6 (six) article from all over the country, not only from local area of East Java. Those articles covered graph theory, numerical analysis, applied mathematics, statistics, economic mathematics, and algebra. This issue was authored by 13 authors and co-authors.

In the first article, the author discussed the application of hierarchical cluster analysis. There are four clusters were formed based on the result of the study. In general, cluster 1 is a sub-district with good education condition, cluster 2 is a sub-district with good agricultural condition, in cluster 3 it is necessary to increase the education condition, utilizing dominant land area as well, and cluster 4 is a sub-district with good industrial condition.

The second article focuses on estimation using wet land paddy productivities in Tulungagung. Based on the result, each parameter has different effects on each district. Accordingly, to improve the productivity of wet land paddy in Tulungagung Regency a special policy based on the GWR model in each district is required.

The third article, entitled "*Geographically Weighted Regression (GWR) Modelling with Weighted Fixed Gaussian Kernel and Queen Contiguity for Dengue Fever Case Data*" elaborated the GWR method with the weighted *Fixed Gaussian Kernel*. The study concluded that from this model a R^2 greater than the weighted *Queen Contiguity*. This result indicates that the weighted *Fixed Gaussian Kernel* use for dengue fever case data in this study.

The fourth article emphasized the discussion of disease modelling especially on SVIR epidemic model. From the results of endemic equilibrium point analysis, the author defined the basic reproduction number parameter. Furthermore, R_0 is a necessary condition for the existence of the two points of equilibrium as well as its local stability. Results of local stability analysis indicates if $R_0 \leq 1$, then the disease-free equilibrium point E_0 is locally asymptotically stable.

PREFACE

The fifth article covered the discussion of modelling multi input transfer function. The results of analysis showed that based on the multi input with single output transfer function model, the rainfall in Batu City on certain days is affected by air temperature and cloud on that day, humidity in the previous 23 days, and wind speed in the previous day.

The last article entitled "*The Simulation Study to Test the Performance of Quantile Regression Method with Heteroscedastic Error Variance*" discussed modeling the data containing non-uniform variance problem (heteroscedasticity). This study resulted that all parameter estimated are close to the initial values. The value of Pseudo R^2 for all proposed model at any selected quantile points are quite large, more than 80%. It also stated that based on simulation study, the value of parameter estimated are within 95% confidence intervals indicating that parameter estimated could be accepted. This study also result that quantile regression method is able to produce small value of MSE. Therefore, it could be concluded here that quantile regression methods is unbiased estimator method and could result the acceptable model although in the due of heteroscedasticity problem of error variance.