

Dear editor,

It is our pleasure to submit to you our manuscript entitled: “*wavScalogram: an R package with wavelet scalogram tools for time series analysis*” that we hope you will find suitable to be published in the R journal.

Package *wavScalogram*, which was first submitted to CRAN in 2019, is mentioned in the CRAN Time Series Analysis taskview, within the section “Frequency Analysis – Wavelet methods”. It contains methods based on the wavelet scalogram as defined in ¹Benítez et al. (2010) and ^{2,3}Bolós et al. (2017, 2020). These methods are basically related to two main wavelet tools: the scale index and the windowed scalogram difference. The first one measures the degree of nonperiodicity of a signal and has been extensively used since its introduction in 2010. The second one compares two time series according to their scalograms, determining whether they follow the same patterns or not, and can be viewed as a complement to the well-known wavelet squared coherence. According to Google Scholar, those articles have been cited more than 85 times in works related to many different scientific fields, such as the study of speech signals, pseudo random number generators, image encryption, meteorology, biomedicine, robotics, engineering, mechanical fault identification, finance, etc.

The package introduces methods allowing any researcher, not necessarily familiar with wavelet tools, to use them. In these methods, the user does not need to enter the parameters exhaustively. Indeed, for each particular time series under study, the functions in the package can obtain adequate values of the parameters, making the whole process very user-friendly. This does not mean that the package is not flexible. Obviously, the methods also give the user the possibility to use custom parameter values, according to his/her particular needs. Indeed, this article offers a guided walk down the various parameters of these novel wavelet tools. Moreover, the functions also include the option of obtaining a graphical visualization of the results, which, in this type of analysis, it is usually quite cumbersome.

We hope that this article will be of use for many scientists and that you may find it interesting too.

Yours sincerely

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2. Bolós, V. J., Benítez, R., Ferrer, R. & Jammazi, R. The windowed scalogram difference: A novel wavelet tool for comparing time series. *Applied Mathematics and Computation* **312**, 49–65 (2017).
3. Bolós, V. J., Benítez, R. & Ferrer, R. A New Wavelet Tool to Quantify Non-Periodicity of Non-Stationary Economic Time Series. *Mathematics* **8**, 844 (2020).