



SDI Review Form 1.6

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	Ms_BJMCS_29102
Title of the Manuscript:	Wavelet based Segmentation in Detecting Multiple Mean Changes in Time Series
Type of the Article	Short Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	This paper discuss wavelet based segmentation in detecting multiple mean changes in the time series. They claim that their proposed scheme offer very good practical performance. Below are my comments: 1. Wavelet is a vast research topic. The authors must added more references consequently more literature reviews are needed. 13 References are not enough. 2. MUST add Framework/flow chart for the segmentation procedure and comparison with existing framework 3. Give mathematical derivation about the choice of 15 s d N $\square\square\square\square$. How do we choose this lower bound? 4. Regarding wavelet methods, the authors MUST discuss (any) mathematical proof that how do we relate the wavelet/details and scaling/finer coefficients to the detection the breaks? Across each scale.	References are now added I think the pseudo code given by the Algorithm in page 104 should be enough with more descriptions. We assume that the mean breaks are not too close. The parameter λ_d allows to discard less significant turning points, and is arbitrary chosen. We do not make use of $N/15$, but based on simulation experiments we recommend a value around 10% of the segment size N_s. The scaling coefficients at each level of the MODWT tranform provide a smoother representation to some degree of the original series. They keep track of the overall shape of the series. Therefore they can be easily segmented and make use of lower level of segmentation. When processing real data we do not know the number of breaks and their locations. The standard practice is to estimate the location of a break as a part of the statistical test procedure I think we have got enough graphs. The table shows the high percentage which reflect the good performance of the procedure. As the scale increases $j > 3$ the proportion of



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	5. Explain, how do we know that the breaks respectively at 100, 200 and 300? Is there any mathematical justification? 6. ADD Statistical results in Table form to justify the finding as well to justify the choices of the breaks across the scale. 7. Regarding Table 1 (page 107), how do we calculate the results? What significant the results to the wavelets contribution? Personally I didn't see major contribution here. For sure as the scale is increase, then the proportion of true mean will be decreased as shown in the Table 1. Please clarify and justify the results. 8. Please improve the grammatical and on page 107, As illustrated in ?? ... state the figure. 9. Please include statistical analysis to support results in Table 1. 10. MUST include real case study for instance change point detection is stock price or business cycle and do the comparison with existing scheme. 11. I'm expecting more concrete results as well as more references in the next revision.	true detection does not get any better because I think at higher scales we oversmooth the data. the manuscrit is grammatically under review the histogram plots are intended for this purpose Now a real data example is included
<u>Minor</u> REVISION comments	But must do more literature review and state comparison between their work and similar works	
<u>Optional/General</u> comments		