Peer Review Form for Scientific Articles AE2223-I

Fill in this form by typing, not by handwriting. Adjust space to need. The criteria correspond to those mentioned more elaborately on the checklist scientific articles, to be found on Blackboard. Use that checklist for a more elaborate description of the criteria.

Elements

1. Abstract

Readable as stand-alone text – Informative on research and results – Clear key words

Comments:

I think that the first half of the abstract (till "… or lost importance") is clear and concise; you clearly state the problem that you currently encounter. However the link between the problem and your method seems lacking (look at the sentence between "… or lost importance" and "A single microphone", it does not really flow that nice). Also, what were your conclusions and recommendations from your experiment? Try to add this to the abstract. The keywords give a good indication from what can be found in your article.

2. Introduction

Background information on problem – Clear motivation for research – Research question stated clearly – Structure article discussed if necessary

Comments:

You give a lot of background information about the subject, which is good. Clearly indicates where the problem lies, why the issue should be resolved and what you're going to do to fix this problem. The structure of the paper is also indicated clearly.

3. Data description

Comments:

It is clearly stated what data you are using, however you did not specify where you got that data **from** (I assume it is provided by your supervisor? If so, I think you should state that in your paper).

4. Method

Well-argued – Sufficient definition of concepts – Connection to research question

Comments:

Try to introduce the subsections more explicit, i.e. : In subsection A, we are going to introduce different kinds of corrections on the data, section B introduces several metrics than were chosen as means of comparison for the noise annoyance, for example. Furthermore, the sentence "Moreover, an **attempt was done** to classify aircraft types …", does not really sound convincing to the reader. You could change this for example to: *Moreover, aircraft types were classified based on the noise spectrum obtained, after the noise corrections were applied*.

Keep spelling mistakes in mind, like "polished power-frequency-time **spectogram**", should be spectrogram.

Furthermore, introduce the three corrections (i.e. BNC, DEC and GSC) that you are using in your method section before summing them up one by one. Also, try to connect the three paragraphs together. Example: Another correction that was used was the Doppler Effect Correction, … (badly phrased by me, but you get my point hopefully).

Eq.(3): What does L_p mean in this equation? Try to explain all variables in the equation. Furthermore, why did you decide to define r_0 to be **exactly** 1? Try to explain your reasoning.

"A more in depth sensitivity study can be found in section **V**", isn't this supposed to be **Appendix A**?

5. Results and discussion
Results presented clearly - Validity of results discussed and supported – Relation text/illustrations clear

Comments:

"A raking could be defined for each metric …", reference Table 1 here. Your results are clearly stated in Table 1, however explain what each parameter in this table represents. For example; 2017-08-14 13-13-48 (column aircraft/metric), what does this number represent? Explain this. Furthermore, why isn't there information about Aircraft 8 → Tonality? Explain.

I also think that you can be more specific in your graphs. For example, what does the red-to-blue bar represent in your spectrogram graph? How did you obtain these graphs? Try to describe this in a short section.

Furthermore, your results are presented clearly and you also clearly explain why your results differ or correspond to your initial expectation.

6. Conclusions
Link to research question – Follow from previous material – Recommendations further research

Comments:

I think that you clearly state your conclusion and recommendation for further research. A more elaborated view on to what extent your research question has been answered can be added though.

Reference use

7. Use of sources
Correct references – Good use of literal quotes – Good use of paraphrasing

Comments:

References are correctly used, however sometimes forgotten (see "data description" aswell).

8. Bibliography
References meet requirements – Correspondence references in text and bibliography

Comments:

Almost all references in the bibliography are of good quality. The only reference that you could reconsider leaving out is reference number 2, as www.schiphol.nl is not a scientific source I think. Furthermore, every reference in the text corresponds to an item in the bibliography.

Content

9. Data analysis / research sufficiency
Your opinion on the data analysis and research sufficiency

Comments:

The sensitivity study about tonality was of good quality and it shows that you take all parameters into account, even if formulas themselves do not take these into account.

I think that you can explain more information from the graphs. For example, you say that tonality can take values from 0.1 to 0.5, however in Figure 5a and 6a you can clearly see that there a peaks **below** 0.1. Where do these peaks come from? Try to explain them.

Furthermore, I think that you can add more reasoning of why you choose something. Take the following examples:

"Applying this correction allowed to retrace the sound signal back to the source and virtually "place" the microphone at a defined distance r0 (decided to be r0 = 1) from each aircraft at all times during recording."

For example, why did you choose r_0 to be 1?

"In the above equations, h is the relative humidity and is taken to be 70%, T is the temperature of the atmosphere in which the computation is done, 293.15 K, T0 is a reference temperature, which is also equal to 293.15 K and f is the frequency of the tone."

Why is h taken to be 70%? Did you come up with this value out of the blue, or did you get this information from a source?

10. Argumentation

Your opinion on the academic value of the argumentation – Critical review of literature

Comments:

I think that your method to solve this problem was of good quality. However, referring back to your research question, did you achieve a reliable between aircraft sound pressure data and annoyance? I am missing this in your paper.

Structure

11. Paragraphs

Well-constructed – One topic – Clear topic sentences – Clear paragraph structure

Comments:

I think that you should add a nomenclature at the start at the paper. Furthermore, your paragraphs are well structured and placed in a logical order.

Style

12. Style and language use

Correctness – Objectiveness – Clarity – Attractiveness

Comments:

Your use of English is of good quality. There are however small spelling mistakes, so go through the paper once or twice and try to pick them out. Furthermore, you sometimes make very long sentences. I understood what you meant, but it might make it difficult to read for other readers. Example:

It was found that nowadays there exists no medium capable of providing the annoyance level of an aircraft only given the noise that it produces as the input. By developing such a tool, it would thus be possible to determine how annoying an aircraft is when landing, and could thus help airports determine if a plan such as Schiphol's Landscape Design Plan needs to be implemented to relieve the community and the environment.

Illustrations and layout

13. Tables and figures

Functionality - Number and caption – Reference in text – Reference to source – Legend/explanation

Comments:

- Be consistent when referencing to figures, i.e. use the same style in the entire paper. You sometimes use Figure (2) or Fig. 6a.
- Try to be more specific with these captions, explain what they represent, because they are not specific now. Examples: Figure 5 (b): Spectrogram, Figure 5: Dataset 7, Figure 6: Dataset 5.

14. Format

Font – Headings – Page lay-out – Adherence to template

Comments:

Font size and type is fine and your sections are easily recognizable. Furthermore, I think that you should add "Delft University of Technology, Delft, South-Holland, 2629 HS, The Netherlands" underneath your title.

At last, I think that your title should be a little more specific. "Aircraft flyovers and noise annoyance" part is fine, but you could be more specific at the second part of the title (when I first read it, I was really confused what you meant with "Which corrections? Which metrics?").