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:

The abstract was stand-alone indeed.
It was concise and clear, and the reader immediately gets a glimpse of the content.
There could have been more variation in the wording, as "noise" was repeated three times in the first two lines. Instead of "Knowledge of the variability in noise levels is fundamental when assessing noise around airports", it would have been better to write "Knowledge of the variability in noise levels is fundamental when investigating the airport environment"
Lastly, there was no mention to conclusion, nor recommendations.

2. Introduction

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

Comments:

The first paragraph hits the spot, as it encapsulated the "why" of the report, backed with concrete examples. The introduction's architecture is interesting: it "builds up" to a purpose, which is then rephrased with "The purpose of this work is to achieve a reliable link between aircraft sound pressure data and annoyance".
The article's structure is outlined clearly in the final paragraph.
The wording is well-chosen and clear; I do believe that overall, the introduction is quite long, as it spans more than one page, and could have been more concise.

3. Method

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

Comments:

Regarding the grammar, a little more care with verb tenses is useful, since there is a back-and-forth jump between present and past tense (eg: at the start of the text, past is used. Then, in the next line: "By doing this, the aircraft noise *is* traced" should have been "*was* traced").
Additionally, the Saxon genitive should preferably be avoided when the subject is non-living ("V0 is the aircraft's speed", better would have been simply "the aircraft speed").

Regarding the structure, the scheme (Figure 1) is much appreciated as it acts as a reference point (especially since there are many subparts to analyse). Moreover, the Method's introduction gave a brief overlook of the path to be taken, which is also good.
Additionally, there could have been more of a transition between "A Data correction" and "Background Noise Correction", as the latter came out of the blue.

Content-wise, all methods are well argued, and the associated equations are well-explained.
The referencing is good, but not perfect: when discussing Sharpness, eq. 8-9 seem to come out of nowhere.

As an end note, a little more imagination would be appreciated when presenting the formulas and equations, as the format is always the same (equations 1,4,7,11,12):

The formula is:
P=rho*R*T (1)
P is pressure, rho is density, T is temperature

To make it more appealing to the reader, one could say, for example:

"One expects the pressure P to be linearly dependent on the temperature, as well as the density rho", as the gas law confirms:
P=rho*R*T

Another option would be to use a list of symbols.

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

Comments:

The validity is discussed excellently, using expressions such as: "at first, one might think", "However, the obtained results did not depict that". This gives the results a direction, a line of thought.

One difficulty I encountered whilst reding the results is the fact that the referred figures were placed in the Appendix. It would have been easier to have them in the "Results" section, such that the reader does not have to scroll three pages every time.

The figures portray results clearly and directly. "Table 1: Aircraft ranking for different metrics" is helpful, but could have been better by using a color scheme instead of numbers from 1→7. This way, the ranking becomes more tangible to the reader.

Finally, it would have been helpful to include limitations on the equipment used for measurement. This would give a better idea of the limitations of the research.

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

Comments:

The article is briefly summarized, which is helpful in better understanding the concluding aspects.
Nothing came by surprise in the conclusion, it all followed from previous paragraphs.
I believe the annoyance ranking of aircraft is additional information, and overall irrelevant in the conclusion, since the reader will not remember them.
Lastly, the recommendations were relevant; not only do they sound interesting, but also realizable (assuming there is time and data available).

Reference use

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

Comments:

The use of sources was extensive, continuous.
Looking at the references themselves, I believe a more literal paraphrasing would have been more appropriate; the report states: "According to Sahai [10], loudness is understood to be the sensation of sound volume as perceived by humans.". Citing the source [10]: "Loudness is the sensation value of the human perception of sound volume".
When the referencing is this similar to the source, it is easier to paraphrase directly.

7. Bibliography

References meet requirements – Correspondence references in text and bibliography

Comments:

Not much is to be said about the bibliography: every reference is mentioned at least once in the text and is done according to standard conventions as dictated by TU Delft.

Content

8. Data analysis / research sufficiency

Your opinion on the data analysis and research sufficiency

Comments:

I believe all data was processed extensively. The way the text is structured makes it easy to follow "what has happened" with the data. Equations guide through the corrections, and then mapping occurs through clear plots. Furthermore, additional figures are given to support arguments, such as "Figure 2: Equal-loudness Curve"

9. Argumentation

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

Comments:

After checking a couple of the mentioned sources, I can indeed see that the literature is reviewed extensively and truthfully. Furthermore, the train of thought is easy to follow, so there is a clear outline between question and conclusion.

Structure

10. Paragraphs

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

Comments:

I was quite puzzled by looking at the introduction, as it is common to use three parts (reason, purpose, structure). Instead, four paragraphs occupied the first page, which made the "reason" a bit too long. Additionally, some paragraphs are extremely boring as they are just describing symbols; no one likes to read that.

On the other hand, I found the paragraphs to be concise, and sticking to one theme only.
The way the text is structured makes it easy to follow ("Data Corrections" has 4 parts, one for each correction). I especially like how every paragraph's first phrase hints to the topic, without giving too much away. Very good indeed.

Style

11. Style and language use

Correctness – Objectiveness – Clarity – Attractiveness

Comments:

As mentioned before, there is a tendency to switch tenses (past-present) which can lead to confusion. This is sometimes inevitable (as the article is written by different people), but an extensive proofreading helps.

The lexicon is correct, and the sentences are generally understandable. An effort has clearly been made to provide efficient but attractive writing.
The style of writing is professional, data are used to argument instead of facts and opinions. The flow is cohesive, without contradiction or ambiguity whatsoever.

More of an effort could have been made to find synonyms, to avoid repetition. For example: "This implies that the mesh has clear and straight lines and when looking at the mesh this indeed is correct". One could use the word "grid" instead of "mesh".
Another example where repetition leads to confusion is: "For the frequency, as for the tonality metric, Aures' tonality method [12] was used to take the influence of tonality into account." A simple, more elegant version is: "Similarly as for the frequency, Aures' method [12] was used for taking into account the influence of tonality".
In particular, the word "annoyance" is recited too much, up to nine times per page. As this is a technical term (hard to substitute), one can refer to annoyance with impersonal terms (such as "it", "this factor",…)

Long phrases are correctly separated using punctuation, thus allowing the reader to "breathe", as the following example shows: "If the noise emanating from an aircraft flyover were to be recorded from a ground-fixed microphone and analysed directly, the results would not accurately transcribe reality: data correction and treatment are required to properly assess the noise annoyance."

Illustrations and layout

12. Tables and figures

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

Comments:

I do not understand why Figures 4-5 are contained in the Appendix, and not in the text: if they are needed for discussing the conclusion, they should be placed in the text.
Except for this, all figures are high-quality: the captions are visible, the axes labelled, and the spectrograms even have a color scheme.
Last but not least, Figure 2 does not have a source.

13. Format

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

Comments:

The font is attractive but simple, so not to be distracting to the reads. The headings are easily recognizable. The lay-out could have been more inviting by including more figures throughout the text, as some "blocks" of text are hard to digest.