

Noise emissions and annoyance of sustainable aviation systems
Identifying noise sources and validating noise prediction models

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DOI

[10.4233/uuid:e97e1d99-11f0-46f3-9be9-2f8eeddde3bc](https://doi.org/10.4233/uuid:e97e1d99-11f0-46f3-9be9-2f8eeddde3bc)

Publication date

2025

Document Version

Final published version

Citation (APA)

von den Hoff, B. (2025). *Noise emissions and annoyance of sustainable aviation systems: Identifying noise sources and validating noise prediction models*. [Dissertation (TU Delft), Delft University of Technology]. <https://doi.org/10.4233/uuid:e97e1d99-11f0-46f3-9be9-2f8eeddde3bc>

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Propositions

accompanying the dissertation

Noise emissions and annoyance of sustainable aviation systems

Identifying noise sources and validating noise prediction models

by

Bieke von den Hoff

1. Whether beamforming source maps can provide the true source location and level, depends on the steering vector formulation and the corrections used. (*Chapter 3*)
2. For global optimisation methods, the amount of exploration versus exploitation should be dependent on the specific optimisation problem. (*Chapter 5*)
3. The use of the Rotating Source Identifier (ROSI) has been criticized for its computational expenses, but it is an efficient method to apply filtering in the source velocity domain. (*Chapters 7 and 8*)
4. During experiments with human participants, outliers which are self-consistent should be included in the statistical analysis to estimate full population characteristics. (*Chapter 9*)
5. Applying corrections for Doppler shifts is only useful if you are interested in the true source level and frequency, and not the perceiver perspective.
6. It should be carefully analysed whether we want to conduct measurements on general aviation aircraft with an unconventional design, even though we have a chance to do so.
7. Relevant industries and academic institutions should better team up to encourage spin-outs to facilitate the translation of scientific research into impactful innovations that benefit society.
8. Any noise reduction method that does not prioritize addressing the noise source can be considered inequitable.
9. Engineers can be too focused on producing results, rather than thinking if the results are actually useful. More collaboration with theoreticians can improve this.
10. The academic world should be more open to failures to prevent mental health issues, for young researchers in particular.

These propositions are regarded as opposable and defensible, and have been approved as such by the promotor Prof. dr. ir. M. Snellen and promotor Em. Prof. dr. D.G. Simons.