JCOMP-D-18-00598

Energy analysis and discretization of nonlinear impedance boundary conditions for the time-domain linearized Euler equations

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Response to reviewer #1

We gratefully acknowledge the reviewer for his/her most constructive comments. The quality of the paper has benefited from his/her suggestions. Our responses are provided in this document.

Revised passages have been highlighted in the PDF version of the manuscript, with a different color for Reviewer #1, Reviewer #2, and Reviewer #3.

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1 Summary of revisions

The manuscript has been revised to account for the comments of the three reviewers. The revisions are highlighted in blue for reviewer #1, in red for reviewer #2, and in green for reviewer #3. A summary of the revisions is given below.

Summary of revisions (Reviewer No. 1)

- (Section 2.2) Additional emphasis has been put on the physical meaning of the admissibility conditions.
- (Section 2.3)
- (Appendix A) The part of the appendix that covers admissibility conditions has been rephrased to emphasize the anticausal example $z(t) = \delta(t) + \delta(t + \tau)$ with $\tau > 0$.

Summary of revisions (Reviewer No. 2)

- (Section 2.3) The impact of the energy definition on the analysis has been discussed.
- (Section 3.1) The modeling of grazing base flow in X has been clarified.
- (Section 3.3.1) The role of each step of the discretization process has been clarified.

Summary of revisions (Reviewer No. 3)

- The wording of the "Significance and novelty" document has been modified to account for applications in combustion.

We have also made the following minor modifications.

- ....

2 Format of the present document

Format of response

An answer is formatted as follows. The reviewer is first quoted with a gray box that also indicates the position of the quote in the original review. The comment is then answered in the subsequent paragraph(s). A description of the revisions and their positions is then given in a green box.

Reviewer No.$i \in \{1,2,3\}$ – Position of the quote

> "Direct quote of a comment provided by the reviewer No.i."

Answer to the comment.

Revision (Reviewer No. i)

Descriptions of the corresponding revisions in the manuscript.

The color of the box matches the text color used in the revised manuscript, given below.

- Reviewer #1
- Reviewer #2
- Reviewer #3

Remark on the use of references

In our responses, we refer to two families of bibliographic entries:

- The ones that are contained in the revised manuscript, which are referred to using the numerical style of the *Journal*, e.g. [1].
- References *specific to this document* and not necessarily contained in the manuscript. To avoid confusion, these references are quoted using an author-year citation style, e.g. [Bar16].

3 Reply to reviewer #1

Reviewer No.1 – Paragraphs 1 & 2

Comment 1

We thank the reviewer for these comments. We have addressed each one below. In the revised manuscript, the corresponding revisions are highlighted in blue.

Reviewer No.1 – Comment 1 (a)

Bla

Detailed answer, if needed.

Revision (Reviewer No. 1 – Comment No. 1)

Summary of the revision.

References

[Bar16] Foo Bar. An important paper. *Important Journal*, 140(3):1663–1674, 2016.