

Again, we are indebted to the Reviewer for their valuable feedback. The resulting revisions to the manuscript are described below.

REVIEWER:

Reviewer comment:

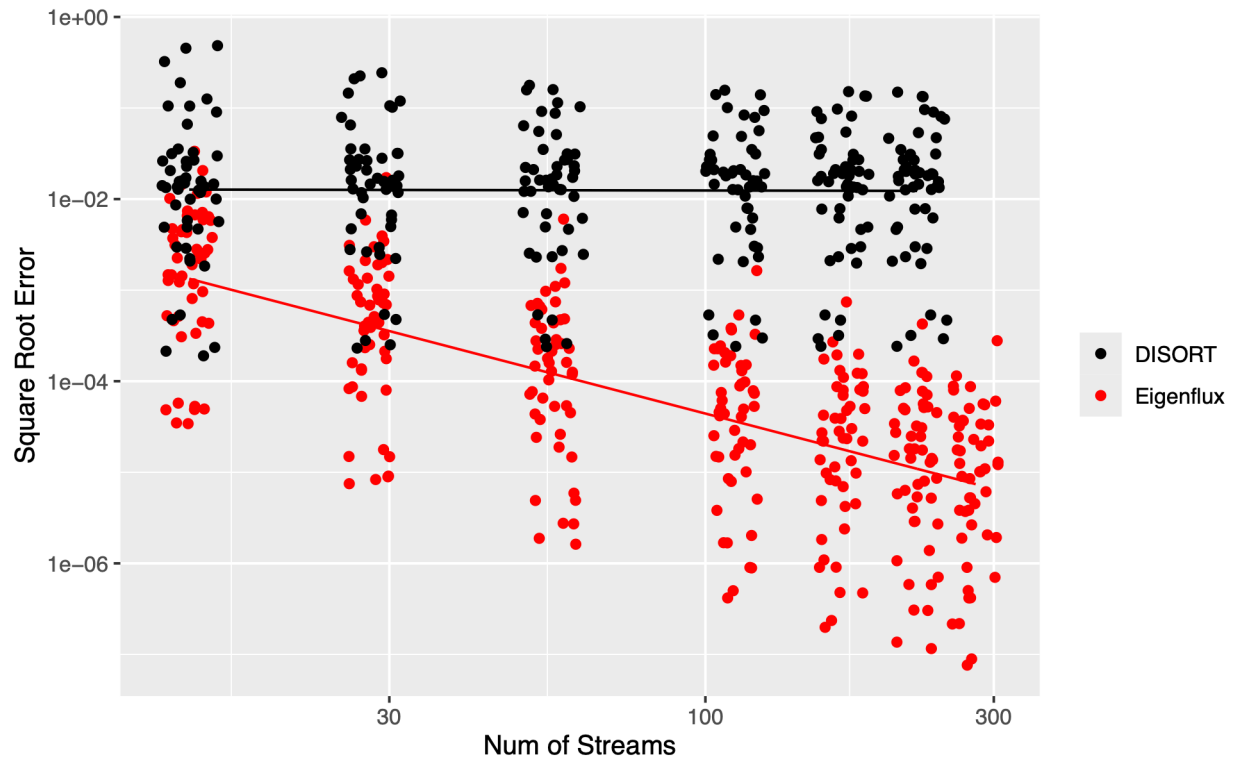
The authors have done really well in addressing many of the previous issues, but there are still many unjustified statements without providing quantitative results. Generally, they need to use numbers from the results section to motivate the statements in the Abstract and Conclusion. For example, just stating the model has reduced error is not enough. They should state how much the error is reduced by and always be explicit when discussing relative changes.

Response to comment:

Thank you for your comments. We have sharpened the statements and added a figure 17 to illustrate them. The modified statements include:

From abstract-- "Comparisons with DISORT show 748 times better accuracy and 10 times faster execution for number of streams greater or equal to 168. EigenFlux maintained stable solutions for asymmetry factors exceeding $g > 0.99$, although stability is weaker for absorption levels less than 0.10."

From conclusion—"Figure 17 shows that EigenFlux is more and more accurate than DISORT as the number of streams increases, with an accuracy increase by a factor of 0.0013 at 168 streams."



Reviewer comment:

Additionally, much of the paper is written in short paragraphs that have no flow or connecting sentences to put the ideas together. It reads more like a series of discrete ideas rather than a coherent thought.

Response to comment:

All instances mentioned in the attached referee report have been merged into larger paragraphs.

Reviewer comment:

Finally, many of the figures have difficult to read text and ambiguous x/y axes. Please make sure all figures have clearly identifiable axis labels.

Response to comment:

The axis labels for most of the figures have been enlarged for greater legibility.

Reviewer comment:

Finally, many of the figures have difficult to read text and ambiguous x/y axes. Please make sure all figures have clearly identifiable axis labels.

Response to comment:

The axis labels for most of the figures have been enlarged for greater legibility.

Additional comment from Referee Review:

This [optically thick] should be defined.

Response to comment:

Parenthetical comment added to abstract, highlighted term with definition has been added to text--

“ optically thick (thick/deep enough for the reflectance to reach its natural limit)”

“ e.g. adding additional depth does not change the reflectance significantly”

Additional comment from Referee Review:

Line 36-- What is " low absorbency". I am not familiar with absorbency as a term. Couldn't you say low absorption?

Response to comment:

You are correct. All occurrences of “absorbency” have been changed to “absorption”.

Additional comment from Referee Review:

Line 209-- This is out of place and odd to say. What details are you referring to? Consider just removing this sentence.

Response to comment:

The statement has been removed.

Additional comment from Referee Review:

Line 363-- Why use rough approximation. If you can give an exact number, then you should. Also, an increase relative to what? Which mesh is this sentence referring to?

Response to comment:

The statement has been changed to— “Increasing the number of streams by a factor of 3.77 results in an average increase in accuracy of one magnitude for the Chebyshev mesh..”