

Reply to Editor:

Thank you for the reminder to include data and code availability statements. These have now been provided as follows.

Data and availability

The PSD measurements and key simulation outputs from this study are available via a GitHub repository at <https://doi.org/10.5281/zenodo.20003687>.

Code availability

The CMAQ-RIN module developed in this study is available from the corresponding author upon reasonable request.

Reply to Reviewer 1:

We thank the reviewer for identifying these issues in the abstract. They have been addressed as follows.

Minor comments:

1. The text of the abstract is not justified (i.e., not aligned on both margins).

Reply: The abstract text has been formatted to be fully justified.

2. The content in lines 24–25 of the abstract repeats the results described earlier. It is recommended to either condense or delete this part.

Reply: The redundant text has been removed. The revised sentence now reads: “While RIN improves PNC estimates, it also leads to overestimation at the smallest sizes, likely reflecting inherent limitations in the modal parameterization.”