

Peer Review Report

Review Report on Spatiotemporal heterogeneity of lung-deposited surface area (LDSA) in Zurich Switzerland: LDSA as a new routine metric for ambient particle monitoring

Original Article, Int J Public Health

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EVALUATION

Q 1 Please summarize the main findings of the study.

Lung-deposited particle surface area concentration (LDSA) might be a viable metric for inexpensively characterizing fine to ultrafine particles (F-to-UFP) exposure.

Q 2 Please highlight the limitations and strengths.

The manuscript shows novelty in the research question of interest and research data collection pipeline.

Q 3 Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

In this manuscript, the authors aimed to examine the feasibility of applying LDSA as a new metric for ambient particle monitoring. The manuscript shows novelty in the research question of interest and research data collection pipeline. But some modifications might be needed before acceptance for publication. The comments are as follows:

1. A subsection describing the statistical analysis methodology should be provided before the Results section.
2. Please provide more information on whether the existence of LOD will have effects on the scientific findings of the study.
3. Figure 1 indicates the existence of outliers in the data, and please provide more information regarding those outliers.
4. The color scales used in Figure 3 and other similar figures should be adjusted for better visualization.
5. The application of trend tests or other statistical models should be considered in this study.

PLEASE COMMENT

Q 4 Is the title appropriate, concise, attractive?

Yes

Q 5 Are the keywords appropriate?

Yes

Q 6 Is the English language of sufficient quality?

Yes

Q 7 Is the quality of the figures and tables satisfactory?

Yes.

Q 8 Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Yes

QUALITY ASSESSMENT

Q 9 Originality



Q 10 Rigor



Q 11 Significance to the field



Q 12 Interest to a general audience



Q 13 Quality of the writing



Q 14 Overall scientific quality of the study



REVISION LEVEL

Q 15 Please make a recommendation based on your comments:

Minor revisions.