

## ***Interactive comment on “A new method for measuring the imaginary part of refractive index structure parameter in the urban surface layer” by R. Yuan et al.***

### **Anonymous Referee #1**

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The atmospheric refractive index structure parameter (ARISP) is studied from both theoretical and experimental perspectives. The real part of ARISP is closely related to the strength of atmospheric turbulence whereas its imaginary part determines the absorption for radiative transfer. Because of the importance, the findings reported in this paper should be useful contributions to atmospheric physics literature.

Overall, the manuscript can be easily understood. But the manuscript in its present form needs some mandatory major revisions before it is accepted for publications.

Major issues:

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- 1) The use of English in the manuscript needs to be substantially improved. There are a number of grammatical errors and awkward phrases or sentences in the manuscript.
- 2) The originality of the theoretical development in the manuscript is ambiguous. Specifically, in Section 2 “Theory” it is not clear which part is the authors’ original contribution. For example, it seems that the formulas and relevant explanations in Sections 2.1 and 2.2 are taken from the literature. If this is true, please delete these sections and cite the original papers.
- 3) For Sections 2.3 and 2.4, trivial technical details seem unnecessary. To enhance the clarity of the manuscript, Sections 2.3 and 2.4 should be rewritten.
- 4) In the conclusions, the value of the findings of this study should be clearly stated. The current statement about the value of this study is too generic. It should be more specific.

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