

## ***Interactive comment on “On the reflectance spectroscopy of snow” by Alexander Kokhanovsky et al.***

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The authors thank the reviewer for the constructive comments on the paper. Our answers are given below: 1. We acknowledge that the theory described must be extended to account for the possible snow vertical inhomogeneity and possible finite thickness of a snowpack. These topics are out of scope of this paper. The abstract, introduction, and conclusions have been modified to account for your comment. 2. We also agree that the retrieval approach will not work well in case of polluted snow with the spectral absorption coefficients of pollutants, which do not follow the Angström law. The abstract, introduction, and conclusions have been modified to account for your comment. Of course, general equations (Eqs. 1-3) to solve the direct problem of snow optics presented in the paper can be used anyway. Eq. 1 has a misprint (R0 is missed before the

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exponential term). We have corrected this misprint in the final version. 3. All equations and definitions are explained in the text. We have also prepared the Appendix A with all definitions and units. Also we have prepared a special section (appendix B) on discussion of the retrieval errors as advised by you. 4. With respect to your comment related to the asymmetry parameter  $g$ , we confirm that this parameter depends on the shape of the grains. We have used the fixed value (0.75) in the determination of the grain size. Although the effective absorption length (EAL) can be derived from reflectance even if the value of  $g$  is not known. Therefore, we propose to use EAL for the characterization of natural snowpacks. 5. We have accounted for all your minor comments.

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