

# ***Interactive comment on “Temporal and spectral cloud screening of polar-winter aerosol optical depth (AOD): impact of homogeneous and inhomogeneous clouds and crystal layers on climatological-scale AODs” by Norman T. O’Neill et al.***

## **Anonymous Referee #3**

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The paper present a study on the applicability of a cloud screening method to nocturnal star photometry AOD data. Even if of great importance in the analysis of these kind of data, it is not clear to me if this method can be easily applied to climatological time series. Another concern is that the language is too unformal at some points (e.g. at line 195 "Spatial comparisons between CALIOP and GC AODs were spotty at best" or at line 238 "A notable Ny-Ålesund star photometry feature was..").

Comments

Line 295: the difference you cite is not generally positive in my opinion (2 are positive and 2 negative for Eurika and generally negative for Ny-Alesund).

Appendix A: is not clear to me which is the need for this mathematical demonstration. Which is the physical sense?

Minor comments

Line 187: check "starhotometry"

Line 266: there is one "(" not necessary.

Line 278: should not be 'Appendix A'?

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Discussion paper

