

Interactive comment on “An overview and issues of the sky radiometer technology and SKYNET” by Teruyuki Nakajima et al.

Anonymous Referee #1

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" An overview and issues of the sky radiometer technology and SKYNET "
by Nakajima et al.

This paper presents in depth overview of SKYNET network of sun-photometers. It describes the hardware and many details of the network operation including calibration procedures, maintenance, atmospheric aerosol and gaseous property retrievals, as well as validation of the SKYNET products. The SKYNET has been founded about two decades ago and has been dynamically evolved since. In my opinion, the SKYNET together with AERONET is one of the bests established ground-based networks that provided extremely valuable information for validation of satellite observation and directly for aerosol science. It is difficult to overestimate the importance of this information provided by the ground-based networks for current understanding of properties of

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atmospheric aerosol and its impact on climate and environment. With no doubts this paper comprising many details of SKYNET operations is clearly interesting and important for the community and for the reader of Atmospheric and Measurement Techniques (AMT). Therefore, I think the paper should be published AMT and included AMT highlights. At the same time, the authors could try to clarify additionally certain aspects and improve the content of the paper even further. Below, I listed few suggestions for optional consideration by the authors.

Detailed comments;

1. The abstract seems to be unusually short, probably it could be extended by adding some more essential information;
2. In my opinion, the paper could be even more interesting if the authors put additional efforts in outlining even more the similarities and differences, as well advantages and disadvantages of SKYNET observations and retrieval products with those from other networks, first of all compare to AERONET.
3. The paper seems to focus on the details of hardware description and acquisition of measurements. Probably, some more information about retrieval procedures could interest the readers.
4. Some statements about accuracy of the retrieval, e.g. about size distribution and single scattering albedo are not justified in fully convincing way. The author just showed few figures and short explanations to them. The justification of retrieval products accuracy normally deserves more attention. For example, in AERONET activities many theoretical investigations and field campaigns are devoted to clarification of the retrieval accuracy of aerosol properties (SSA, etc.). I believe some more discussion and references to filed experiment and numerical tests could be beneficial for readers.

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