

Interactive comment on “Aerosol optical properties in Northern Norway and Svalbard” by Y.-C. Chen et al.

Anonymous Referee #2

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The paper Aerosol optical properties in Northern Norway and Svalbard present the comparison of two AERONET stations, Andenes located in the sub-Arctic and Hornsund in the Arctic. The paper is a continuation of the results presented already by Toledano et al 2012 and Rodríguez et al 2012. The paper is well writing and presented. The method is based on three years data from AERONET network in level 2. The results are a statistic study of these results base on the same statistics intervals considered in the previous publications. Alomar and Hornsund have some other interesting instruments that can be considered together with the sun photometer measurement to give a more complete over view of the aerosol concentration over the Arctic and the difference with the sub-Arctic. I encourage the authors to extend the study introducing new results with for example lidar measurements to give a better

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characterization about the aerosol distribution and the aerosol size distribution. The study can be extended as well using some other AERONET parameters when they are available and MODIS satellite retrievals to analyze the aerosol radiative effects in the region. An extended study about the weather conditions in both stations can be useful as well to study the difference between the arctic haze in both stations. After careful consideration of the manuscript with the results presented here I regret to inform the authors that I have decided to reject the paper for publication. Based on my reading of the manuscript, I determined that the new analyses presented in the paper were not substantially different over the previously published works. I am sorry I am unable to give you a more positive response. But I encourage the authors to keep working in the study. With some other novel results about Arctic aerosol effects, the paper can be a really interesting work. I trust that you will find a suitable journal to publish your work.

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