

Interactive comment on “Surface Radiation during the Total Solar Eclipse over Ny-Ålesund, Svalbard, on 20 March 2015” by M. Maturilli and C. Ritter

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We thank Reviewer #1 for his helpful comments.

Below we address the points that were requested in detail:

1) Although Figure 1 illustrates the reason for the non-eclipse decreases in global radiation that are shown in Figure 4, we decided not to combine the figures but keep the pure geometric information (Figure 1) separate from the measurements (Figure 4). Taking up the reviewer's main point, we added an according color bar in Figure 4 to include the information on shading of the instrumentation. For better comparability, both figures now also have the same x-axis and ticks.

2) Indeed, we observe radiative cooling of the near surface air after the reduction of

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upward thermal radiation due to surface cooling. Cold air advection by catabatic winds occurs about 10 minutes later. We have changed the wording of the misleading paragraph.

3) After introducing the different parameters, we now use “shortwave radiation” throughout the manuscript.

4) A doi-datalink to the GRUAN radiosonde profiles is now provided.

5) Radiation and T/P/RH data are stored in the data set “Basic and other measurements of radiation at station Ny-Ålesund (2015-03)” (doi: 10.1594/PANGAEA.854326), while the ceilometer cloud data are stored in the data set “Expanded measurements from station Ny-Ålesund (2015-03)” (doi: 10.1594/PANGAEA.854330).

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