

## ***Interactive comment on “Pyranometer offsets triggered by ambient meteorology: insights from laboratory and field experiments” by Sandro M. Oswald et al.***

**Sandro M. Oswald et al.**

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We thank Referee 2 for the positive judgment of our work and the useful suggestions for revising the manuscript.

Below we provide the review (in bold) and our point to point response to individual comments.

**In the manuscript ‘Pyranometer offsets triggered by ambient meteorology: insights from laboratory and field measurements’ Oswald et al. discuss impact of the precipitation on the shortwave radiation measured by standard pyranometers with different ventilation systems. The conclusion from this study is very**

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**important and useful for radiation community. Recommended by authors flagging radiation during and after precipitation day and nighttime measurements should be applied by WMO, BSRN network. The manuscript is generally well written and clearly presented and therefore in my opinion this manuscript can be published in AMT after minor revision.**

We thank the referee for acknowledging the originality of our work and its importance for the radiation community.

**The main concern is lack of the information about response of the non-ventilation pyranometers on the precipitation. Could you provide any results or some estimation of the impact? If not please provide some discussion about this kind of the radiometers.**

Our study was focusing on BSRN-class pyranometers (and HV-systems) operated in the Austrian RADiation network. As ARAD adopts BSRN recommendation regarding pyranometer operation in ventilated housings (e.g. McArthur, 2005) we have not investigated precipitation effects on non-ventilated pyranometers within the present study. Nevertheless, we agree with the referee that such analysis would be of immediate interest for the radiation community. We will include a statement regarding the importance of a similar analysis for non-ventilated systems in the discussion section of the revised manuscript.

**Some information on the spray system is needed in the section 2. For example about droplet size which may important for radiometer response 3.**

The spray system created very fine, homogeneous drizzle, producing small droplets on the pyranometer dome, which quickly coagulated to larger drops (see Fig. 1). Such coagulation on pyranometer domes is also observed during stratiform and convective precipitation events. We will provide this information in the revised manuscript.

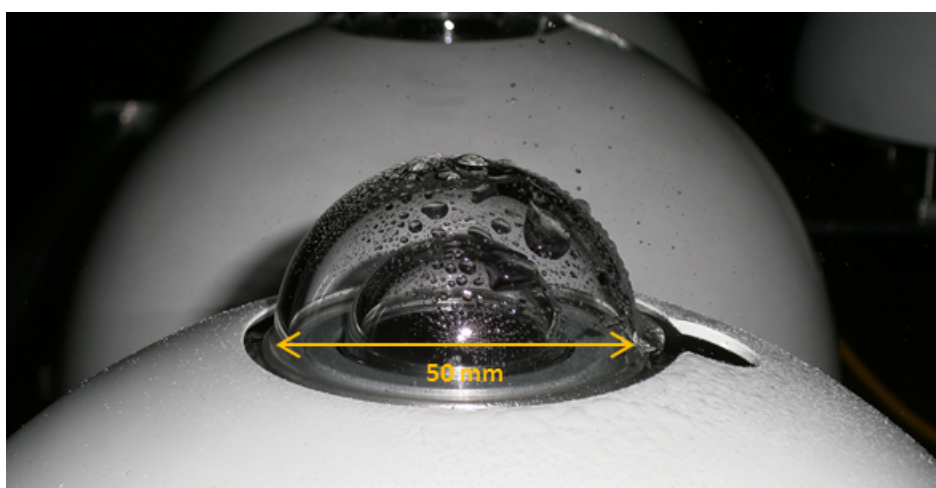
**Could add information on relative humidity during laboratory experiments?**

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Relative humidity has been  $\approx 65\%$  throughout the series of laboratory experiments. We will include this information in the revised manuscript.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-351, 2016.

C3



**Fig. 1.** Drizzle and coagulated drops on the pyranometer dome during a spray-test.

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