

Interactive comment on “Cloud speed sensor” by V. Fung et al.

Anonymous Referee #3

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This is a technical paper describing a simple sensor to determine speed of cloud pattern in order to provide adequate information to solar power plant. While technically paper is well written, the efforts to characterize the sensor performance are too limited. The principle of sensor operation assumes a single layer of relatively shallow clouds, which speed (or more accurate: vector of cloud shadow speed on ground) is well defined and can be detected with use of correlation technique. How does the sensor perform in a case of multiple cloud layers and presence of directional wind shear in the atmosphere? How does the sensor perform in situations with developing convective clouds which move towards or against the sun at relatively low elevations? These questions should be addressed to characterize the sensor performance and applicability. I do understand that collection of such data in natural conditions can be difficult and takes time. Can additional experiments/validations with artificial shadows help? I highly recommend at least discussion of the mentioned effects in the revised version

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of the paper.

Secondary comments.

1) It seems that the instrument suffers a bit from performance of the electronics. Can you comment on a particular choice of the platform? 2) It seems that after calibration/adjustments the sensor would provide information about the variability of solar flux, not only about the cloud speed and direction. How valuable is such information? 3) Wind direction scale in Figs. 5 and 6 covers the full circle. Can you expand it? Do you have any idea what is the reason of large jumps in detections from LCE?

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 9037, 2013.

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