

## ***Interactive comment on “Field deployable diode-laser-based differential absorption lidar (DIAL) for profiling water vapor” by S. M. Spuler et al.***

### **Anonymous Referee #2**

Received and published: 9 December 2014

I forgot one comment in the review I submitted yesterday:

Sec. 2.4: The authors should make clear why they prefer single-photon counting to ADCs. Normally, photon counting is the choice for far-field detection in wide range systems. However, photon counting leads to pronounced near-field nonlinearities. This can be partially compensated in DIAL systems if both detection channels probe the same volume. However, using transient digitizers is far superior for the lowest altitudes and allows for onset altitudes between 150 and 300 m which is desirable in a system as that described. In addition, recent transient digitizer models make possible interference-free operation down to about  $1\text{E-}6$  of the full input voltage range (including

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minor smoothing). Thus, there is almost no advantage for photon counting.

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Interactive comment on Atmos. Meas. Tech. Discuss., 7, 11265, 2014.

**AMTD**

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