

Interactive comment on “Developing a portable, autonomous aerosol backscatter lidar for network or remote operations” by K. B. Strawbridge

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The author would like to thank the referee for their comments. I have made changes to the manuscript to address their concerns. Please find the author response (AR) to each comment below.

Anonymous Referee #1 Received and published: 25 January 2013

Things which should be corrected in this paper are:

C3994

The S ratio must be introduced. AR: S ratio is now defined in the text

p8629 line 2: Figure 10 => correct: Figure 7 AR: correction made

line 7: The polarizations vary... => correct: The volume linear depolarization ratios vary... AR: the additional text was added

p8631 line 2 ff, and p8632 line 9ff As Hysplit trajectories are only shown for one arrival point in time and height, interpretations concerning the lower cloud/plume mixing seem to be speculations. If available, additional information should be provided or mentioned at least to support the conclusions, else the speculations should be skipped. AR: Sentences were removed to reduce the amount of speculation.

Figure 8: images too small The figure has been split into two figures to increase the image size.

p 8632 line 11 ff "One should also note that the back trajectories shown in Fig. 10, indicated that the main transport was just south of the CORALNet UBC and CORALNet BLO sites, yielding smaller backscatter coefficients at these sites, likely due to being on the periphery of the plume." First: trajectories are not that accurate, and 2nd, the original source parameters (location, duration, intensity) of the fire plume and hence the whole spread and its variation in time and space are unknown (not shown), which, to my opinion, doesn't allow such detailed interpretations. AR: The sentences with the detailed interpretations were removed.

p 8632 line 15 ff "Not surprisingly the plume on 24 June is not visible in the standard CALIPSO (Cloud- Aerosol Lidar and Infrared Pathfinder Satellite Observations) satellite lidar total attenuated backscatter plot (not shown here)" => provide a link to CALIPSO data AR: link has been added

p 8632 line 17ff "However, once the 80 km horizontal average products are analysed, the CALIPSO vertical feature mask and aerosol subtype algorithms correctly identified the aerosol plume aloft as smoke at the same ..." => provide a link and references for

C3995

CALIPSO data and algorithms. AR: link and reference added

Fig. 12 Plots are too small, bad resolution. Provide source reference. AR: The figure has been split into 4 figures to increase the size and the source reference provided in the figure captions.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 8609, 2012.