

Interactive comment on “Synergetic measurements of aerosols over São Paulo, Brazil using LIDAR, sunphotometer and satellite data during the dry season” by E. Landulfo et al.

E. Landulfo

elandulf@net.ipen.br

Received and published: 25 July 2003

Interactive Comment on “Synergetic measurements of aerosols over São Paulo, Brazil using LIDAR, sunphotometer and satellite data during the dry season” by E. Landulfo et al.

E. Landulfo et al

Reply to the comments of reviewer S. Kinne

We would like to thank Dr. Kinne for his helpful comments.

In his comments Kinne pointed out some concerns we would like to list and reply accordingly:

(1) Improvements to the initial version: more data-intercomparison.

In this context we decided to pick some of our best results and showed in the paper, for the sake of not being too extensive in our article we chose to keep these examples. We might add a few more examples, but those would only be for case C type ones, since these are, regionally speaking, more interesting for picking up the potential areas for aerosols.

(2) Data time matching

We tried to match the time of data acquisition as close as possible, since this task was not coordinated in principle, as the routine for each equipment was already timely setup. About the concern by Dr. Kinne in his comments he picked Sept. 19, 2001 at times 18:46, 19:34 and 19:56. These are not the periods we showed in the paper but rather: 14:08 and 15:01 for the CIMEL and 14:11, 14:16, 14:21, 14:46, 14:51 and 14:55 for the LIDAR equipment. One thing to be fully clarified is that all times shown in our article is UTC (GMT) ones. The backtrajectories were taken 96 hours in advance to 12 UTC of the day shown in the data acquisition, since the routines in the calculations were setup this way, and we wanted to stress the potential sources for aerosols, rather than have a match in time with the acquisition period.

(3) Lidar ratio retrieval from AERONET

For the LR (532 nm) retrieval from AERONET data we carried out the calculations suggested by Kinne and compared with the 10% δ matching criterion used in the paper. We observe that the results are in good agreement with the exception of day 09/19/01. Also the LR values given in table 2 and throughout the text in the paper will be corrected for the final version.

Day Time LIDAR Time	AERONET LR	10% match LR	AERONET	09/19/01	14:00	15:00
13:03, 16:03	36 58	09/24/01	13:00	14:00	19:58	41 43
08/20/02	13:00	15:00	13:12	48		
55	08/21/02	12:00	13:00	10:40, 11:55	37 28	08/23/02
					13:00	14:00
					13:11, 16:12	65 62

(4) Modis AODŠs retrieval

For the MODIS AODŠs retrieval we followed the procedure given by Kaufman et al (1997), in these the AOD at 550 nm is given in 10 km resolution cloud screened, in KaufmanŠs article the algorithms given are matched for the multispectral reflectance observations in order to lookup the pre-computed reflectance tables. About taking local MODIS retrievals near S. Paulo, this was at the present not the aim of our paper. The idea itself is very useful and interesting and the a validation (intercomparison) of MODIS x AERONET data are currently being carried on in a very detail procudere by one of our collaborators (A.D.A Castanho) and should approached carefully in the future.

(5) TOMS data

Concerning the statement about TOMS, we should rephrase it.

(6) Input for Modelling

When we mentioned the profiles as input we intended to stress the LIDAR profiles obtained in general, and not specifically ours, in the case the Models would use the profiles, those would have be Retrieved by a Network or a mobile LIDAR for better resolution data input.

REFERENCES

Kaufman, Y.J., Tanré, D., Remer, L.A., Vermote, E.F., Chu, A., and Holben, B.N., Operational remote sensing of tropospheric aerosol over land from EOS Moderate Resolution Imaging Spectroradiometer, J. Geophys. Res., 102, 17,051 Ū 17,067, 1997.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 2835, 2003.

[Full Screen / Esc](#)[Print Version](#)[Interactive Discussion](#)[Discussion Paper](#)