Atmospheric
Chemistry
and Physics
Discussions

Open Access

ACPD

Interactive
comment

Interactive comment on "Smoke of extreme Australian bushfires observed in the stratosphere over Punta Arenas, Chile, in January 2020: optical thickness, lidar ratios, and depolarization ratios at 355 and 532 nm" *by* Kevin Ohneiser et al.

Anonymous Referee #2

Received and published: 5 April 2020

Review of the paper by Ohneiser et al.

The paper provides very useful and unique information for aged smoke properties, vertically resolved, using ground based lidar measurements. The Australian bushfires in 2020 injected smoke in the stratosphere and this was transported eastward to South America. This data set is extremely useful as input for the satellite algorithms of CALIPSO and AEOLUS, which are the instruments that can truly follow the evolution of such events. The paper is well written and structured and should be accepted for publication as a rapid communication in ACP.

Printer-friendly version

Discussion paper

Some minor comments should be considered by the authors before publication.

In order to put this event in perspective, it would be useful to insert a table which will summarize smoke properties from other stratospheric aged smoke events that have appeared in the literature. This will allow to the reader to interpret the intensive parameters found.

The backtrajectory analysis as presented in Figure 2 could be substantially improved, by including the hot spots from the fires. The authors actually should show how the smoke was raised at high altitudes over Tasmania and New Zealand and then followed the westerly winds. As it is written a lot of facts are speculated.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2020-96, 2020.