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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Extreme dust storm over the eastern Mediterranean in September 2015: Lidar vertical profiling of desert dust at Limassol, Cyprus" *by* R.-E. Mamouri et al.

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We would like to thank already now the three reviewers for their valuable comments (although one month is left for further discussions). However, we feel we should immediately respond to the concluding recommendation of reviewer 4, who stated: I do not recommend publication in ACP.

An extended answer to all points of all reviews (very good and constructive suggestions!) will follow later (after closing the open discussion in July 2016).

For us, there is no doubt that the contribution (as it is) is a significant contribution to atmospheric science. We are convinced that the work is clearly worthwhile to be

published, and that ACP is the right (and appropriate) journal for such kind of reporting papers.

What is the basis for our argumentation?

We report and document a unique, extreme (record) dust storm over Cyprus. To our best knowledge such a case has never been reported (in such quantitative detail) in the literature. We think that alone this fact, that we report a unique (record) dust outbreak, is already sufficient to justify publication. We think, there must always be room in scientific journals just for 'breaking' NEWS (unique events). Such papers are needed to stimulate new science directions, alternative research paths, new proposals, especially when dust prediction models failed to predict such an extreme dust outbreak.

We agree that we have to better combine the observations with modelling efforts. Therefore we want to state here that we planned from the beginning to have two papers. The first paper deals with the observations and carefully elaborated measurement results and the second paper will concentrate on the modelling results (a regional atmospheric model is used) and will discuss the reasons for the bad predictions as well as potential solutions how to avoid such modelling situations in future. So, as a consequence of the reviews, we will show some modelling results already in the paper under review. But we do not like the idea to combine all the observations with all the (already available) complex modelling results in one paper. Such a paper would be simply too long.

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