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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Dust resuspension under weak wind conditions: direct observations and model" *by* O. G. Chkhetiani et al.

Anonymous Referee #2

Received and published: 29 February 2012

This study formulates the conditions at which dust can be suspended from a mixture of dry surfaces and desert areas. The topic is of high importance and it can give insight on the formation of dust episodes in similar regions. However, the authors fail to make very well presentation of their results by poorly writing the manuscript. This, somehow, weakened the novelty of the study and made it boring for the reader. I therefore recommend re-writing of the manuscript in a better scientific style before it can be considered for any further submission to the ACP after this ACPD submission.

The abstract is poorly written. It lakes quantitative results, novelty, and detailed summary of the main findings.

The whole manuscript is badly structured and misses the main section "Results". In fact, the results and methods are mixed up in the manuscript that makes it difficult for

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the reader to follow up the study. I shall mention few examples here:

Pages 31233-31234 are not focused at all, the objectives were not clearly pointed out.

Section 2 can be better titled as “methods and materials”.

Section 2.1 can be “measurement site” [this rquires a map]

Page 31236 can be a separate subsection entitled “aerosol measurements” [although this still needs more information to be added about the setup, sampling, calibration, quality assurance of the data, data pre-processing, etc. . .] and another subsection “weather conditions”.

The first part of page 31237 can be a section about theoretical or data analysis. To this section should be moved anything related to theory or modeling that are mentioned elsewhere in the manuscript.

Section 2.2 is seen as the first subsection of the “Results” and it can be entitled “particle number and mass distributions”

Section 2.3 can be the second section in the results and it is better entitled as “variation of particle number and mass concentration with weather conditions”. Although section 2.3.1 is very badly written!

Going down in the manuscript is a mixture of methods and results that are mixed up. This is not good for the reader. The authors are supposed to frame their manuscript in a way that the reader is first understanding their tools, and then getting their results ready with some discussion. The reader is not supposed to dig in the manuscript to figure out the results and link fragmented parts of the manuscript.

The references list is way too short. Extensive discussion and comparison to others is essential.

The figures are not very well formulated. It is nearly difficult to follow what the authors want from a figure. For example:

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Figure 1 is about particle number size distributions and figure 2 is about particle mass distributions. The captions of these two figures do not specifically indicate what is presented; the use of common terminology is important here. In any way, they can be merged in one figure as 4 subfigures.

Figure 4, the authors are required to explain how they obtained the concentration in these subfigures. Did they integrate over the measured size range or they selected a specific particle size!

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 31231, 2011.

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Interactive Comment