Response to anonymous referee's #1

General comments

This is an interesting study and I recommend publication after the comments below have been addressed.

Response: we would like to thank the anonymous referee for his/her critical and insightful comments related to our manuscript. This critique has motivated us to examine and revise the manuscript.

Specific comments

1. Please make sure the revised manuscript is written in correct English (check before submitting).

Response: we have checked the manuscript carefully and improved the expression.

2. line 26. Note that Sow et al. measured dust deposition; not dust emission.

Response: the work of Sow et al. (2006) indeed relates to dust deposition but emission. This mistake has been corrected.

3. General remark regarding the introduction: Please note that, as stated by the authors, the efficiency of most dust deposition samplers that have been used in the past is low, but for several of these samplers the correction factors are known. Applying these corrections leads to a much better agreement between measurements and model results, up to discrepancies as small as 15 % or even less. So far, the agreement between dust emission measurements and dust emission models has not yet reached this level of similarity.

Response: in our opinion, our knowledges of dust emission and deposition are both far from complete. Generally, the discrepancies between measurements and model results are caused by the low-quality of measurement data and the un-reasonability of model. The "correction factor" of deposition sampler is normally ascertained relative to a water surface, which is considered the best alternative for simulating a perfectly absorbent surface. It is a good way to compare the collection efficiencies between different samplers and partly improve the quality of data measured by sediment samplers. But the surfaces we normally interested in are diverse and the surface collection processes over different surfaces are also different, because of different laminar layer and different surface condition. The physical difference of deposition processes over water and other surfaces essentially exists, which will cause uncertainty of the data measured by sampler. Additionally, the lack of detailed information of experimental condition is another reason for poor-quality of existing measurements. These are the motivations for our work. And also, the existing deposition schemes are not perfect. We test and improve them in a companion paper "A new parameterization of dust dry deposition over rough surfaces".

4. Lines 26-28. It looks somewhat odd that papers that were published AFTER the conceptualization of dust emission schemes served as the basis for these schemes. I suggest re-writing the sentence.

Response: we changed the sentence to "As far as dust emission is concerned, several wind-tunnel and field observations (e.g. Gillette, 1977; Shao et al. 1993; Ishizuka et al. 2008) which serve as the basis for the conceptualization of dust emission schemes (Shao, 2001, 2004; Marticorina and Bergamatti, 1995; Alfaro and Gomes, 2001) have been carried out."

5. Fig. 1: It is entirely normal that discrepancies occur between the tested surfaces. Dust deposition is determined by the properties of the particles, the properties of the fluid, and the properties of the deposition surface itself. Deposition velocity is defined as the ratio of deposition flux to (airborne) concentration, and it thus depends on ALL factors influencing deposition except dust concentration. Therefore, the authors should be careful when they state that the 'scatter seriously undermines the value of the measurements for validation of models" (lines 61-62). To allow for correct comparisons, models should be adapted to the conditions under which the experimental data were obtained.
Response: the sentence will be changed to "The scatter may be caused by the uncertainty in measuring techniques and the differences in experimental conditions. The lack of knowledge of measurement precision and the unrecorded information of experimental conditions undermine the value of the measurements for the validation of existing models."

6. line 123: Confusing. Are there 2 rows of 6 outlets each, or 2 rows of 3 outlets? Fig. 3 suggests that there are 2 rows of 3 outlets each, 6 outlets in total.
Response: that is "2 rows of 3 outlets" which have been corrected.

7. lines 129-130. Please provide a number.
Response: the height is about 20 mm above the top of surface. We provide the exact value of measurement height in **Table B2**.

8. line 135. 2200 kg/m3 looks low for pure SiO2. Are you sure the value is correct? Did you verify it experimentally?
Response: the dust we used in our experiment is spherical fused silica powder produced by Bestry Performance Materials Co.,Ltd. The parameter ρ_p=2200 kg/m^{-3} is provided by the producer. We validated this value by using Archimedes drainage method before the wind tunnel experiment.

9. line 140: Note that this has never been experimentally confirmed. In fact, even a water surface may cause some rebound, although it will remain very low. I agree that the acceptance of a no-rebound condition is necessary to test the "classic" dust deposition schemes, but the no-rebound condition must then be presented in this manuscript as an assumption; not as a fact.
Response: the sentence has been changed to "For both surfaces, the possibility of particle rebound should be low, and thus it is reasonable to assume that dust concentration at the surface is zero…"

10. line 145. It would be good to define what a Gobi surface is. Most readers of this journal will not be familiar with this term.

Response: Gobi is described as "a surface consists of sands and gravels".

11. line 150. So you applied oil to the wooden surface to make it sticky. Then I suggest you include this information in the earlier descriptions.
Response: have been done.

12. lines 153-159. Unclear. Were the data from these 10 heights measured simultaneously or in repeated runs? I suppose the latter because the PDA measures in only one point. If measurements were not performed simultaneously, how confident can one be of the reproducibility of the concentrations (you state in line 159 that you use the data for determining the vertical dust concentration profiles)? Did you perform tests to check this?
Response: it was in repeated runs. A device was fixed at a certain height to measure dust concentration and to monitor the stability of dust feeding and the reproducibility of the concentration profile. Some changes have been made to make this clear.

13. lines 169-170. This way of presentation is very confusing. I suggest listing the classes: 0.5-1.5 um, 1.5-3.0 um, etc.
Response: have been done.

14. line 182: the associated VERTICAL dust flux
Response: it is VERTICAL dust flux. Done.

15. line 183: I would write Fdi instead of Fi
Response: have been changed.

16. line 195: It might be useful to provide a justification for this (neutral boundary layer, high wind speeds, …).

Response: we have changed the sentence to "…the mean vertical wind $\overline{w}_a$ which is generally considered to be zero under the condition of neutral boundary layer".

17. Fig. 7: Since the circled numbers 1 and 2 are larger than the thickness of the corresponding layers I would add a short line ("arm") to the circles, pointing to the corresponding layer.
Response: Some arms have been added in figure 7.

18. Lines 261-262: It is very unfortunate that the raw SS80 data are not shown. According to my calculations, the deviations with the authors' measured deposition velocities should be really large. For example, for 1-μm particles and u_* = 0.57 m/s and z_0 = 0.31 mm, SS80 predicts a deposition velocity two orders of magnitude lower than what the authors measured. The Sehmel and Hodgson (1978) model also predicts much lower deposition velocities, very comparable to SS80.
Response: we add the raw SS80 data and relevant discussion in **Appendix A.**

19. line 265. Confusing. Are the effects of waves and spray droplets included or not included in the SS80 scheme? To my knowledge they are not, so it looks like line 265 should read: ": : : are NOT included : : :".
Response: it is NOT included. Done.

20. line 303: Some explanation of the correction formula might be useful. The ratio wt/ku* appears in the exponent, which suggests that corrections were (also) made for vertical differences in concentration.
Response: Some explanations of the correction formula have been added.

Technical corrections

line 10: delete "the".
Response: done.

line 14: same remark (2x).
Response: done.

line 17: delete last "the".
Response: done.

line18: velocities
Response: done.

line 80: capitalize "tunnel".
Response: done.

line 82: delete "the".
Response: done.

lines 83-85: Something is wrong with this sentence. Please correct.
Response: done.

line 88: delete "the".
Response: done.

line 93: across
Response: done.

lines 95-98: please correct the sentence.
Response: done.

line 134" silicium dioxide (not silicone dioxide)
Response: done.

line 139: “a wood surface and a water surface”
Response: done.

line 167: Replace “For” with “Because” and “bigger” with “larger”.
Response: done.

Fig. 11, caption: delete “is”
Response: done.

Fig. 12, caption: delete “are” and add a full stop after “surface”.
Response: done.

line 317: replace “expected work” with “expected to work”.
Response: done.

line 356: dominates
Response: done.

line 357: dominates
Response: done.

Response to anonymous referee's #2

General comments

The manuscript "Measurements of Dust Deposition Velocity in a Wind-Tunnel Experiment" presents results of dust deposition velocity from direct measurements in a wind tunnel. It develops a new method which measures the individual particle motions directly using single instrument based on particle dynamic analysis, which can get data of both particle velocity and particle size. The particle deposition velocity as a function of particle sizes at different wind velocities and land surfaces are presented. The data obtained was used to compare with and test a dust deposition model scheme for smooth surfaces (wood and water surface) and rought surfaces (sand,sandy-loam, Gobi and trees surface), through which the incompentency of the scheme and thus the need for improvement were recognized. This study provides a new method for particle deposition velocity measurement and has enriched the data set of dust deposition velocity, which is helpful to validate the deposition scheme in the model. I recommend its publication in Atmospheric Chemistry and Physics if the follow question can be addressed.

The deposition velocity obtained here is based the model particle SiO_2, which is spherical. This will serves as reference data to validating deposition scheme model. I am wondering how ambient relevant are the results here considering the difference of the lab particles and ambient dust particles in term of particle size distribution, particle shape and density. For example, shape of dust particles are usually non-spherical and may have different densities. Wind speed is an important parameter in this study. But the measurement of wind speed was not mentioned in the experimental part.

Response: normally, dust deposition schemes assume the shape of dust particle is spherical and particle size and density are considered as input parameters in the schemes. We select spherical particle SiO_2 to satisfy the requirement of measuring device. The size of particle is measured by PDA. Particle density is provided by the producer and is validated before the experiment. So that's would be fine to validated the schemes by using the data of the lab-particles. But it's true that the shape of dust particles is usually non-spherical, which means that the dust deposition schemes should be extended for non-spherical particles after the validation by spherical particles. Many works are required in future. As mentioned in page 9444, line 24-25, "As the particles are small, their horizontal velocities can be considered to be the same as the local wind speed.", the horizontal wind speed is represented by horizontal particle velocity measured by PDA.

Specific comments

1. Pg 9442, line 4, specify which devices you are referring to (for fluxes and concentration?) and what uncertainties that the authors refer to. Elaborate a little on the advantage of the method.

Response: in most dust-deposition experimental studies, deposition velocity v_d is estimated by measurements of dust flux and concentration which are operated by at least two devices, such as artificial sampler for flux and OPC (Optical Particle Counter) for concentration. The more the required devices are, the higher the measurement error should be. More descriptions for existing measurement technique have been added to

highlight the advantage of our method.

2. Pg 9443, line 4-5, does this "multi-light detector" include several "different detectors"? It does not sound very clear for me.
Response: That is a technique of PDA. In receiver probe (as shown in Fig 2), the photosensitive element is divided into several parts by the aperture plates. Each part serves as a light detector.

3. Pg 9444, line 9-10, is the bounce also not possible on the wood surface?
Response: we oiled the wood surface by lubricating oil. And the bounce is assumed be impossible over this sticky wood surface.

4. Pg 9445, line 9-11, is the particle size resolution determined by instrument or just data analysis? The arithmetic average diameter is used here. But when it comes to the terminal velocity (Eq. 6, Pg 9447, line 4), the terminal velocity is proportional to Dp^2. The w_t of upper limit of one bin is much different than the lower limit of the bin, for example, there is nine times different for the bin 0.5-1.5 um! Then when calculating w_t, a geometric mean seems to be more reasonable. I am wondering how sensitive is the deposition velocity to w_t.
Response: the particle size resolution is determined by data analysis. Because the estimation of deposition velocity requires enough number of measurement data. Then we divided the raw data into several particle size bins to satisfy that requirement. For each bin, the particles are considered to be mono-dispersed with the respective median sizes to calculate relevant terminal velocity. It indeed has some problems here, for the reasons mentioned by the referee. But the deposition velocity w_d is only sensitive to w_t for particle larger than 100 μm (Droppo, 2006). So, for simplicity, we select arithmetic average diameter in the analysis.

5. Pg 9446, ï˜A ˇ aline 20, is ïA¸Dˇ ti determined by "time interval between the peaks of the pulses" as indicated in Pg 9442, line 25? If so, clarify it.
Response: this question of referee is not shown well. We guess the referee wonders if $\overline{w}_p$ is determined by "time interval between the peaks of the pulses". The answer is NOT. There are actually three kinds of time scale. The minimum is "time interval between the peaks of the pulses", which represents the time for particle to cross the adjacent bright and dark planes of the fringes. This time scale is determined by the velocity of particle. The other time scale is Δt_i, which represents the time for particle to cross the measuring point of PDA. The maximum time scale is T, which represents the time for measurement. $\overline{w}_p$ is the sum of terminal velocity and the average wind velocity in vertical over time T.

6. Pg 9447, line 2, Eq. 5, for a certain size bin, when calculating wd, is the same Dpi used for all particle in this size bin? If so, Dpi can be omitted from the equation to make it simple.
Response: in Eq. 5, D_{pi} is different and is measured by PDA. But when calculating w_t, D_p is the same and is evaluated by the medium value of the size bin.

7. Pg 9448, line 3-5, is (wp –wp)Nj the standard deviation of the subset Nj ? . It is not very clear for me that why the Eq. 7 is used in such a way. Please elaborate it.
Response: $\overline{w_p - \overline{w}_p}^{Nj}$ is not the standard deviation of the subset N_j. $w_p - \overline{w}_p$ could be considered as the fluctuation of vertical wind speed. The total average of $w_p - \overline{w}_p$ should be zero, if the information of wind is show completely (i.e. particles pass the measuring point one by one, during T). But in fact, there are not sufficient particles. The wind information is only shown partly and the sampling is biased due to the vertical variation of dust particle concentration. Eq. 7 is employed to correct the effect of this bias.

8. Pg 9448, line 13, how is Zd determined?
Response: there are several models to estimate z_d, sucha as Raupach (1994), Shao and Yang (2008), Tian et al. (2001) and so on. But in this study, z_d is not a sensitive parameter and we arbitrarily set it to 200mm, about $0.8h_c$ (according to the study of Slinn (1982)).

9. Pg 9449, line 10, the figure "not shown" can be shown in the appendix.
Response: have been done.

10. Pg 9449, line 17-18, from Fig. 11, one can not tell wd increase "linearly" with friction velocity. Maybe just state "increase".
Response: done.

11. Pg 9449, line 17-18, by "wp", do you mean wd since wp is not shown here?
Response: yes, it should be w_d. Done.

12. Pg 9450, line 20, from Fig. 13, one cannot tell with which existing studies have you compared? Do you refer to the general range of all the studies in Fig. 1 or only part of them? Considering that wd seems to strongly depend on the surface materials, it is good to know that you are comparing similar things (although not much data in the literature on similar materials). And specify the dashed line is for wt in the caption.
Response: we only select the studies for measuring deposition of particles larger than 1 μm, from figure 1. According to the suggestion, more information has been added in figure 13.

13. Pg 9451, line 18-20, the comparison of different surfaces are only mentioned in the summary but not covered in the results part. Also the measuring height of tree surface is different from other surfaces, is the deposition velocity comparable?
Response: We added some discussions in the results part, based on figure 13, in which the deposition velocity is recalculated to the same reference height.

14. Fig. 9 can be put in the appendix since it is not a key figure.
Response: figure 9 is an example for wind profile, which illustrates that the boundary lay condition of wind-tunnel satisfies the requirement of our experiment. Additional, the measured wind profile is the basis of the wind filed parameters. It's an impartment picture and is necessary to appear here.

Technical comments

15. Pg 9454, line1 and line 4 are same references but different year. Please check.

Response: that's a mistake which has been corrected.

List of changes

Page 9440

Line 2, delete “the” before “PDA”

Line 8, delete “the”, before “wind-tunnel” and before “dust deposition velocities”

Line 12, delete “the” before “wind-tunnel”

Line 13, “velocity” is changed to “velocities”

Line 17 – 21, the sentence “As far as dust emission is concerned, several wind-tunnel and field observations have been carried out (e.g. Gillette, 1976; Shao et al. 1993; Sow et al. 2006; Ishizuka et al. 2008) which serve as the basis for the conceptualization of the dust emission schemes (Shao, 2001, 2004; Marticorina and Bergamatti, 1995; Alfaro and Gomes, 2001).” is changed to “As far as dust emission is concerned, several wind-tunnel and field observations (e.g. Gillette, 1977; Shao et al. 1993; Ishizuka et al. 2008) which serve as the basis for the conceptualization of dust emission schemes (Shao, 2001, 2004; Marticorina and Bergamatti, 1995; Alfaro and Gomes, 2001) have been carried out.”

Line 24, delete “the” after “in”

Line 26, “existing” instead of “the” before “dust”

Page 9441

Line 17-19, “in most dust-deposition experimental studies, measurements of dust flux and/or concentration are made for the estimation of w_d (Sehmel, 1971; Wesley et al., 1983; Gallagher et al., 1997; Ould-Data, 2002; Pryor et al., 2008)” is changed to “In most dust-deposition experimental studies, a combination of devices, such as artificial sampler for flux measurement and OPC (Optical Particle Counter) for concentration measurement, is required for the estimation of w_d (Sehmel, 1971; Wesley et al., 1983; Gallagher et al., 1997; Ould-Data, 2002; Pryor et al., 2008). But the more required measurement devices are, the higher measurement error should be.”

Line 25-27, “Such scatter seriously undermines the value of the measurements for the validation of models, which may be partly attributed to the uncertainty in measuring techniques and differences in the experimental conditions.” is changed to “The scatter may be caused by the uncertainty in measuring techniques and the differences in experimental conditions. The lack of knowledge of measurement precision and the unrecorded information of experimental conditions undermine the value of the measurements for the validation of existing models.”

Page 9442

Line 12, “to the same reference height (1 m).” is changed to “to 1 m away from the zero-plane displacement height.”

Line 13, “wind-tunnel experiment” is changed to “Wind-Tunnel Experiment”

Line 14, delete “the” before “LDA”

Line 16, add “depends on”

Line 17, delete “the” after “between”; “from two detectors in the receiver” is changed to “detected by different detectors”

Line 19, delete “the” before “PDA”

Line 22, “distances” is changed to “distance”; “depends” is changed to “depend”

Line 24, “cross” is changed to “across”

Line 26-27, “For the time interval between the peaks of the pulses can be obtained and the particle displacement (in the direction perpendicular to the fringes) is the spacing of the adjacent fringes, the velocity component orthogonal to the fringes can be determined.” is changed to “During the time interval between the peaks of the pulses, the particle displacement (in the direction perpendicular to the fringes) is the spacing of adjacent fringes. Then, the particle velocity component orthogonal to the fringes is accordingly calculated.”

Page 9443

Line 3, delete “the” before “PDA”

Line 4, “is used as a multi-light detector” is changed to “is fixed in the receiver probe to create several light detectors”

Line 8, “long” is changed to “length”

Line 24, “six” is corrected to “three”

Page 9444

Line 2, “as close to the surface as possible” is changed to “with distance about 20 mm away from the top of surface”

Line 5, “Silicon Dioxide” is changed to “fused silica”

Line 9, “surface (oiled by lubricating oil)” is added after “wood”

Line 10, “particle rebound is not possible” is changed to “the possibility of particle rebound should be low,”

Line 15, “(a surface consists of sands and gravels)” is added after “Gobi”

Line 18-19, “In case of the wood surface, lubricating oil is applied to floor to make it sticky.” is deleted.

Line 20, “to prevent” is changed to “for preventing”

Line 23, add “dust” before “feeder”

Line 24, “the points” is changed to “these points”

Line 25, “local” is added before “wind speed”

Line 25-26, delete “At each point,”

Line 26-27, “are measured and then averaged over 3-minutes intervals” is changed to “are measured one by one with duration of 3-minutes,”

Line 28, add “Simultaneously, a device is fixed at a certain height to measure dust concentration with the purposes of monitoring stability of dust feeding and verifying reproducibility of the concentrations.”

Page 9445

Line 1, “15 mm” is changed to “20 mm”; add “top of” before “surface”

line 7, “For” is changed to “Because”; “bigger” is changed to “larger”

line 9-10, “0.5-, 1.5-, 3-, 5-, 10-, 15-, 20-, 25-, 30-, 50-, 80-, 100-, 150- and 200 μm” is changed to “0.5-1.5 μm, 1.5-3 μm, 3-5 μm, 5-10 μm, 10-15 μm, 15-20 μm, 20-25 μm, 25-30 μm, 30-50 μm, 50-80 μm, 80-100 μm, 100-150 μm, and 150-200 μm”

line 17, delete “the” before “PDA”

line 20, add “vertical” before “flux”

line 21, “F_i” is changed to “F_{di}”

Page 9446

Line 8, delete “the” before “PDA”

Line 11, “. While $\overline{w}_a$ ” is changed to “which”; “under the condition of neutral boundary layer” is added after “to be zero”.

Page 9447

Line 13, “smaller” is changed to “lower”

Line 16, add “is” before “set”

Page 9448

Line 8, “(the height of the trees is about 230mm)” is added after “tree surface”

Line 19, delete the comma after “comparable with”

Page 9449

Line 10, “not shown” is changed to “as shown in Fig A2”

Line 11, “that it” is changed to “that is”

Line 13, add “not” before “included”

Line 17, delete “almost linearly” after “increase”

Line 18, “w_p” is corrected to “w_d”

Page 9450

Line 6, “SS80 and the Slinn (1982) scheme” is changed to “existing dust deposition schemes”

Line 9, “scheme” is changed to “schemes”

Lin 13-21, “in our wind-tunnel experiments ..., … existing studies”

is changed to

“The measurement heights for existing experiments, including our work, are normally different. The same reference height is required to achieve a proper comparison. By considering the similar aerodynamic characteristic over different surfaces (logarithmic wind profile), the term of ‘same reference height’ is defined as the same distance away from the zero-plane displacement height (here, we take $z_r - z_d$ = 1 m).

For steady and horizontal homogenous conditions, dust concentration equation should be

$$K_p \cdot \frac{\partial c}{\partial z} + w_t \cdot c = -F_d = w_d \cdot c \qquad (9)$$

where the dust diffusivity K_p is set to $ku_*(z - z_d)$ and the dust deposition flux F_d is considered as a constant.

By solving Eq.(9), we can get the relationship of dust deposition velocities at two different heights z_r and z_m

$$w_d(z_r) = \left\{ \left[\frac{1}{w_d(z_m)} - \frac{1}{w_t} \right] \left(\frac{z_m - z_d}{z_r - z_d} \right)^{\frac{w_t}{ku_*}} + \frac{1}{w_t} \right\}^{-1} \qquad (10)$$

where $w_d(z_r)$ is the deposition velocity at z_r and z_m height of the measuring point. To facilitate comparison, we have therefore corrected all data to the same reference height $z_r=(z_d + 1)$.

The corrected data of our and other experiments (as shown in Fig. 1) are illustrated in Fig. 13. The results of our data show that the deposition velocity for particle bigger than 1 μm increases with particle size and friction velocity. The comparisons between the measurements over different surfaces show that the deposition process is enhanced over water surface (because of waves and spray droplets) and tree surface (because of efficient surface collection).

Fig. 13 also shows the comparison between our data and the existing results corresponding to Fig. 1. As seen, for low-roughness surfaces, our data are in general consistent with the existing studies. Likewise, our measurements are comparable with the field observations for high-roughness surface. But we also note that, the deposition velocities measured in field seem to be larger than our measurements, under the similar wind friction velocity. That's may be caused by the complex surface condition which is hard to simulate in laboratory. "

Page 9451

Line 5, add "to" after "expected"

Line 13, "9" is changed to "nine"

Line 17, "0.5-40" is changed to "1-40"

Page 9452

The following content is added:

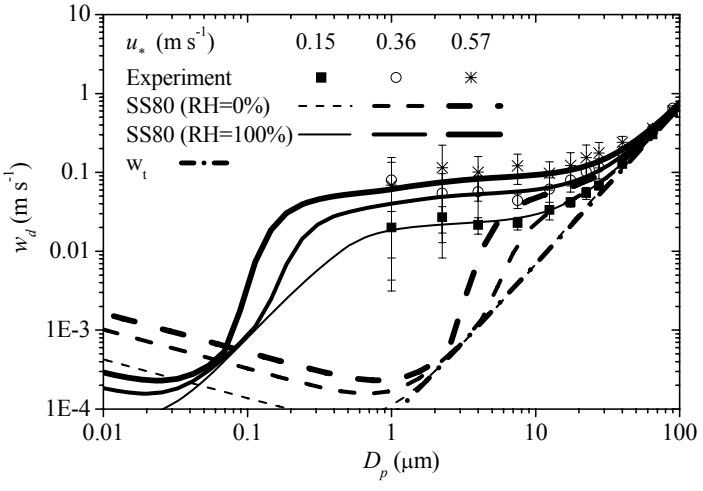


Fig. A2: Comparison between our measurements and the results of SS80.

We now compare the results of dust deposition velocity over water surface, between our measurement and SS80. As shown in Fig. A2, the predicted results of SS80 under the condition of RH=100% (solid lines), which consider the particle growth effect, agree with the measurement (dots) well. But actually, the particles (SiO_2) used in our experiments do not

satisfy the requirement of particle growth mechanism. This implies that the good agreement between the scheme and the measurements should be achieved by a wrong reason. In fact, we should set RH=0% to exclude the effect of particle growth. The predicted results of SS80 without the effect of particle growth are shown as the dash lines in Fig. A2. As seen, these predictions are seriously underestimated. We guess this may caused by ignoring the effect of waves and bubbles or spray droplets emitted from the water surface in SS80.

Page 9454

The lines 12-14 are deleted

The lines 29-32 are deleted

Page 9455

The lines 11-17 are deleted

The lines 25-27 are deleted

Page 9456

The line 3 is deleted

The lines 6-9 are deleted

The lines 14-15 are deleted

The lines18-19 are deleted

Page 9457

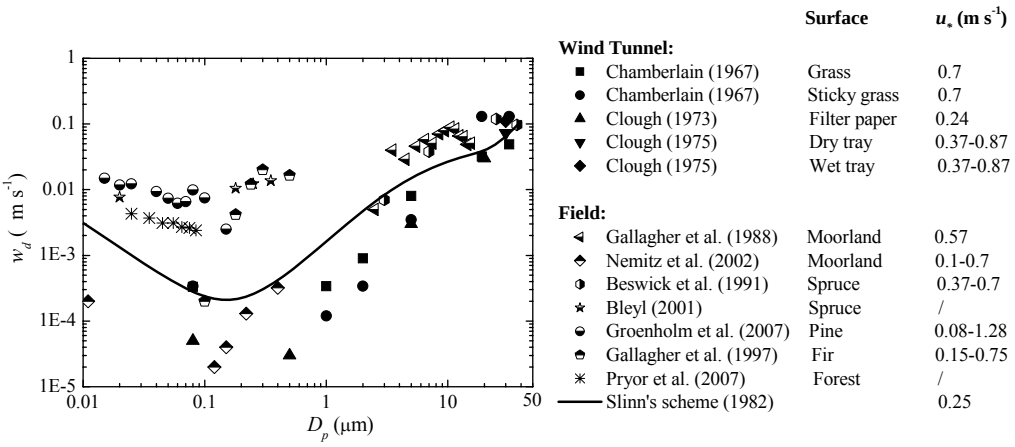
The lines 3-5 are deleted

The lines 14-16 are deleted

"Zhang, J. and Shao Y.: A new parameterization of dust dry deposition over rough surfaces, Atmos. Chem, Phys. Discuss., 14, 8063-8094, 2014." is added.

Page 9461

The information of friction velocities are added in Fig 1

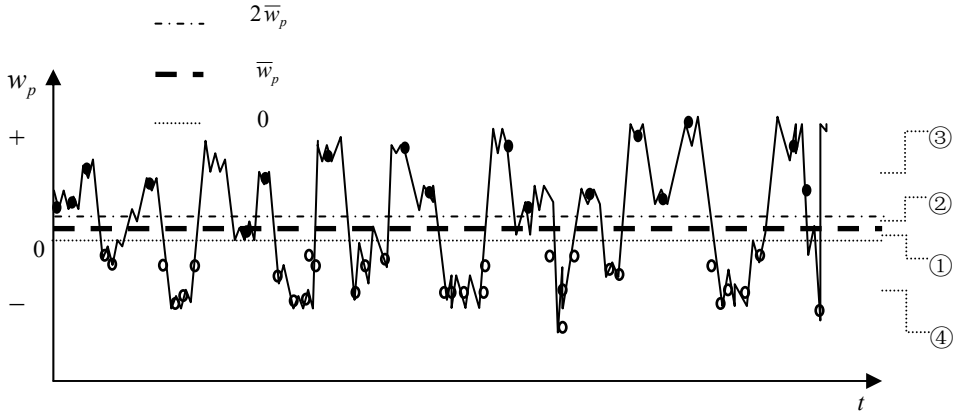


Page 9465

Caption: “probabilistic” is changed to “probability”

Page 9467

Figure: Some arms are added.



Page 9469

Caption: “symbols” is changed to “dots”

Page 9470

Caption: “symbols” is changed to “dots”

Page 9471

Caption: delete “is”. Done

Page 9472

Caption: delete “are”. Done

Page 9473

Caption: “The dots are the results of the existing works shown in Fig. 1. All measurements are corrected to the same reference height (1 m)” is changed to “The dots are the results of the existing works shown in Fig. 1. All measurements are corrected to z_r=z_d+1 m.”

Figure: The shape of the dots is changed, to keep up with Fig. 1.