

Review of Ground based measurements of immersion-freezing in the eastern Mediterranean by K. Ardon-Dryer and Z. Levin

The manuscript was substantially improved and I congratulate the authors. I am willing to accept the paper after the following technical corrections are taken into account.

Specific comments

P6, L19: I am wondering how reliable the PM2.5 data are as the sampling time was 2.5km away from the filter sampling location. Do the authors assume that the PM2.5 concentrations are homogenously distributed in that large area? Do you think that the lower correlation discussed in P9 Line 22 is coming from the aforementioned limitation? It could be discussed in the text.

Technical corrections

P1, P3-P10, P15: "Aerosols" should be replaced by "aerosol particles" or "aerosol".

P2, L8: Replace "freezing nuclei" with "FN"

P2, L17; P3 L16: Deposition nucleation is not a freezing process because it does not involve the transition from liquid to solid. I suggest to replace "deposition freezing" by "deposition nucleation".

P2, L18-19: I don't think that this is the best definition of immersion freezing. Is it possible to define it in a different way?

P3, L9: I think the word "many" is not necessary here.

P3, L22: Replace "create" with "form".

P3, L22: There is a semi-colon missing between Moreover and Lohmann.

P4, L8: I suggest to replace "research" with "study".

P5, L24: Ice nuclei was defined in P2 line 14. Use the abbreviation (IN) here.

P6, L1: Remove the "s" in "meters".

P6, L10: "Activated fraction" was already defined in the abstract. No need to define it again. Use "AF" instead.

P6, L10: Replace "freezing nuclei" with "FN".

P7, L11: There should no be space between "10" and "ml"

P7, L17-18: FN was already defined. Avoid redundancy.

P7, L24: Replace "ice nuclei" with "IN"

P9, L19 and L27: Replace "freezing nuclei" with "FN".

P10, L10: AF was already defined. Avoid redundancy.

P10, L14: Replaced "activated fraction" with "AF".

P10, L16: A period is missing after (1997).

P12, L2: I think that the word "shows" sounds better than "demonstrates".

P12, L3: Replace "2" by "two".

P12, L14-15: ESEM and EDS were defined in page 7. Avoid redundancy.

P13, L16: INAS was defined two lines above. There is no need to define it again.

P13, L17: There is a comma in red. It should be black.

P13, L27: Please re-phrase the following:... the figure presents the present results...

P14, L19: "i" should be in italics.

P14, L24: INAS was already defined. Avoid redundancy.

P15, L4: A comma is no needed after f_N .

P15, L5: Replace "activated fraction" with "AF"

P15, L19: Replace "freezing nuclei" with "FN".

P15, L27 and L29: Replace "ice nuclei" with "IN".

P16, L3, 4, 6, 8, 10, 17-18: Replace “ice nuclei” with “IN”.

P16, L8: There is no need to link “are” with “associated”

P16, L1, L15 and L27: Replace “activated fraction” with “AF”

P16, L12 and L21: Replace “freezing nuclei” with “FN”.

P17, L13: Replace “freezing nuclei” with “FN”.

Table 1: It would be nice to mention what are the uncertainties reported in this table (e.g. standard deviation).

Table 2: Be consistent with the used of decimals. For example, -16 or -15 should be -16.0 and -15.0.

There is a space missing the fourth column after the word temperature.

Table 3: Be consistent with the used of decimals. For example, 19 ± 3.6 should be 19 ± 4 .