Below are all the comments of Reviewer #1 and the Editor (in bold) followed by the replies. The parts that are in italic are corrections that are included in the revised version of the paper:

Reviewer #1:

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.

There were several stations of $PM_{2.5}$ around the location of the filter sampling, as can be seen in the enclosed figure below, which illustrates the hourly average of one day during a dust storm. There were a number of reasons for selecting the Ironi D Station because this $PM_{2.5}$ station was the closest station to the location of the filter sampling. In addition, this station is located at about the same distance from the coast line. This is important since many of the dust storms arrive from the west-southwest and engulf a large area of the country. Of course, there are spatial variations that could lead to differences in the measurements even if they are taken a short distance from each other.

We added the following at the beginning of Page 10

It is important to note that the dust storms in this region often cover vast areas. Of course, some spatial variations in concentrations are expected which could explain the lower correlations between the ice nuclei measurements and the PM values.

On Page 6 we also added:

This monitoring station was chosen because it is the closest to our measuring station and because it is located at a similar distance from the coastline.

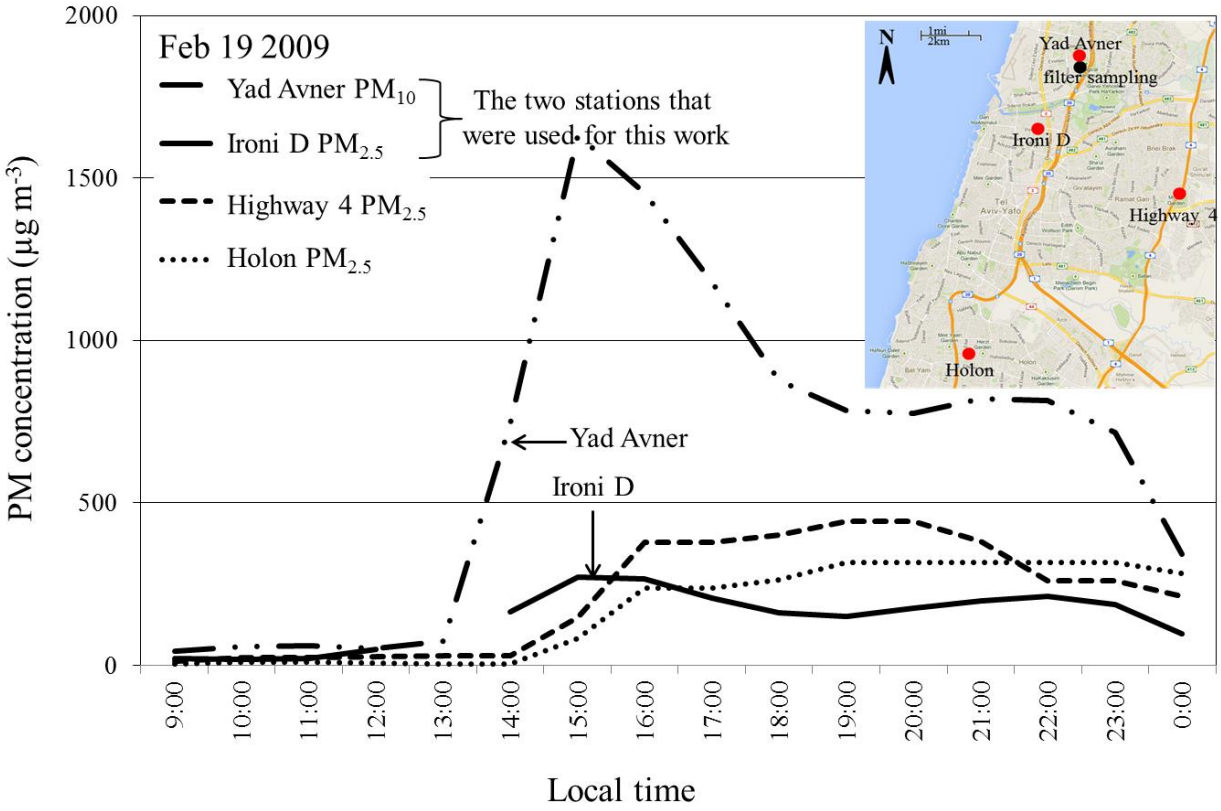

Fig. 1: Hourly average of PM_{10} and $PM_{2.5}$ values, as measured at different stations (red circles in the map) around the filter sampling location (black circle in the map) from a day with dust storms.

Technical corrections

All the technical corrections and modifications in the tables have been adapted and inserted into the new revised paper.

Editor comments

Follow-up comments to the response to Paul DeMott's review:

p. 1, l. 24: Following up on Paul DeMott's comment on the 'relative cleanliness' of your clean episodes, I suggest pointing out here already that 'clean' actually just means 'cleaner' but yet not completely dust-free.

We observed that the aerosol concentrations on what we called dusty and clean days were distinctly different. However, we observed that the difference between FN and AF values between the dust storms and clean days were not so distinct. These results confirmed our conclusions that even in clean days the atmosphere contains a few dust particles. These results agree with the conclusions reached by previous investigations.

In the abstract we added:

The measurements were divided into dust storms and "clean" conditions (this is a relative term, because dust particles are always present in the atmosphere is this region).

In addition, on Page 11 we added:

It is obvious that classifying the atmospheric conditions as "clean" is relative compared to many other locations because even in the absence of dust storms, mineral dust particles are always present in the air in this region.

p. 11, l. 11: On the same note as the comment above, it might be useful to add a value (or multiple values) here of PM10 concentrations at other locations, just for comparison.

We added this example on Page 11

It should be noted that in the research area the yearly average standard values of PM_{10} is 60μg m^{-3} (Israel Ministry of Environmental Protection, 2013), while in Europe the yearly average

standard values of PM_{10} is 40μg m^{-3}(Environment, 2014) and in the US it is 50μg m^{-3} (EPA, 2014).

p. 17, l. 3: Some clarification along the same lines might be useful here, too.

We added this explanation on Page 17

Classification of the samples into dust storm and clean conditions (this is a relative term, because dust particles are always present in the atmosphere is this region) was based on their back trajectory and aerosol mass concentrations (PM_{10}).

Technical corrections

All the technical corrections and modifications in the tables and figures have been adapted and inserted into the new revised paper.