

## ***Interactive comment on “Estimation of Dust Downfall Time in Dusty Days using the Correlation between PM<sub>10</sub> and Sunphotometer Data” by S. Zolfaghari Nikanjam et al.***

### **Anonymous Referee #1**

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Review of the paper “Estimation of Dust Downfall Time in Dusty Days using the Correlation between PM<sub>10</sub> and Sunphotometer Data by Samira Zolfaghari et al.,

The objective of this work is to estimate dry deposition of aerosols based on the correlation of aerosol optical depth (AOD) and PM<sub>10</sub> data.

General Comment: As a whole the scientific subject of the paper is written poorly and the number of data analysed for aerosol deposition (4 days) is also poor. However it is meritorious the effort of the authors to do the paper and the area of measurements is also of great interest in these studies.

However, the major drawback is related with the methodology used by the authors

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to determine dry aerosol deposition. I can understand (perhaps for obvious) how the authors determine the number of hours of deposition by Figure 4. Otherwise I think that the paper can be written better as a short letter. Methods about dry aerosol deposition determination and some references of them are also required. Section 1.1 must be part of the Introduction.

Page 3: Please, specify if the data of sunphotometer and PM10 are hourly or daily data and give some more details about the devices measuring these data. It seems that data are given in a daily basis (Figure 2) but this is not explained clearly in the text.

Page 4: Sentences as “PM10 is deposited within a couple of hours.....” is very general and not always is true (see Pey et al., 2013; Atmos. Chem. Phys., 13, 1395–1410, 2013 [www.atmos-chem-phys.net/13/1395/2013/](http://www.atmos-chem-phys.net/13/1395/2013/) doi:10.5194/acp-13-1395-2013).

Page 4: To explain and put the formulae of correlation coefficient is very elemental and must be omitted

Page 4: Although the value of 30 mm/s is given, particulate density and diameter must be provided.

Page 5. Figure 2 refers to 2010-2012 data but it is not specified if the data are daily or hourly data.

References are written or listed in the order as they appear in the text but not in the order of author's name. Also some references are bad written in the text, as Glassium and Peraspro, 1980; Midelton (Middlenton), Gosnes (Gossen)...

Otherwise, I think that the paper can be written better as a short letter

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