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Atmospheric Chemistry and Physics
Discussions

Interactive comment on "Climatology of atmospheric PM_{10} concentration in the Po Valley" *by* A. Bigi and G. Ghermandi

Anonymous Referee #1

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Review of "Climatology of atmospheric PM10 concentration in the Po Valley" by A. Bigi and G. Ghermandi, Atmos. Chem. Phys. Discuss., 14, 137–170, 2014 www.atmos-chem-phys-discuss.net/14/137/2014/ doi:10.5194/acpd-14-137-2014

OVERALL

The authors present datasets from one of the most polluted regions in the Europe: Po valley. The data management seems to be very well done, especially considering that the authors clearly saw much effort to maintain consistency and data quality. The trend analyses are on my opinion well done and clearly defined. Naturally one can argue for or against some of the methods or techniques chosen, but I think that the authors make a good case for their choices. Not often I see so well described methodology

section for this kind of analyses.

The authors conclude that there has been a significant reduction in particulate pollution in the region within the study period, and the main reason is most likely the reduction in anthropogenic emissions. This result is consistent with earlier studies and, even if maybe not very surprising, is important. The paper is well worth publication in ACP.

The paper is on my opinion very nice, and I was very close to give it direct accept-as-is verdict. However, there is one issue I would like the authors to consider (making this review asking for minor corrections):

Regarding the analyses done, do the authors consider that any systematic changes in meteorological conditions during the study period could have influenced their results? Specifically, I understand that concentrations in Po valley, and extreme pollution effects there as well, are often connected to meteorological inversion events, or at least weak mixing (i.e. low height of planetary boundary height). Have the authors considered effect of this process in addition to the primary emissions? Some discussion on this issue might be in order, especially considering the conclusions of the paper.

There is one minor comment below, technical in nature.

SMALL DETAILS

Pg. 139 ln 19, and other parts on the paragraphs after: Change the names of the e.g. "Sulphate" to lower case

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Interactive comment on Atmos. Chem. Phys. Discuss., 14, 137, 2014.