

REFEREE#2

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Title: Long term trend and variability of atmospheric PM10 concentration in the Po valley

Author(s): A. Bigi and G. Ghermandi

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The manuscript of Bigi and Ghermandi presents a study of long term variations of PM10 concentrations throughout a 10-year period performed on a high number of stations in the Po valley. Long term trend, weekly periodicity and seasonal behaviour have been analysed and a cluster analysis performed to identify pollution patterns that has been associated to different geographical areas.

Authors have tried to relate the observed decreasing trends in PM10 concentrations with variations in PM10 emissions, but only a clear drop has been documented in case of gaseous emissions, related to changes in the vehicular fleet. Uncertainties in PM emission inventory could be the origin of the only slight drop observed in PM10 and PM2.5 emissions.

In the revised manuscript obscure sections of the original manuscript are now clearer, mostly those affecting emission inventory methodology. Some references and paragraphs have notably improved. Also title seems now more appropriated to the analysed time series.

In summary, the paper is a good-quality work and can be considered acceptable for publication in the present version, with no corrections.