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## ***Interactive comment on “Variations in time and space of trace metal aerosol concentrations in urban areas and their surroundings” by T. Moreno et al.***

### **Anonymous Referee #2**

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The paper is focused on the variations of trace metal concentrations in PM samples collected in urban areas and their surroundings. The large amount of data allowed to support the comments dealing with the PM features in the area under investigation. I feel the paper can be published with the following minor revisions in order to improve the reading and to underline the most relevant features of high pollution events:

- as concerns the results shown in Fig. 4, it should be better to explain if the data are the mean values of those collected during the winter campaign. However, I suggest to show the box plot in order to identify the variances among the data. It will be also useful to take into account the concentrations measured during high pollution events in order

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to characterize the emission sources and their impact at receptor. - May the double peak rush pattern be principally related to the ABL variation during the day at BCN site? - I suggest to evaluate the correlation coefficients among the considered trace metals (for each of the considered PM fraction) in order to characterize the pattern of the most relevant emission sources; moreover, it will be interesting to assess which sources most significantly affect metal concentrations when high PM10 values are measured at BCN and MSY sites. - I suggest to improve some figures and tables (as, for example, Fig. 3 and Table 1) for the final version of the paper.

Finally, I think it will be very interesting to perform a comparison between trace metals determined by Synchrotron radiation X-Ray fluorescence spectrometry and ICP-MS techniques.

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Interactive comment on Atmos. Chem. Phys. Discuss., 11, 14747, 2011.

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