

Interactive comment on “First long-term and near real-time measurement of atmospheric trace elements in Shanghai, China” by Yunhua Chang et al.

Anonymous Referee #2

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Using an on-line x-ray fluorescence system (XACT), this paper describes measurements of trace elements in PM_{2.5} aerosol in Shanghai, the industrial center of China. This pioneer work is informative and valuable in terms of the number of species (18) and the duration of observations (a year cycle with hourly resolution) presented, which permit a thorough analysis of temporal variations and source attribution. Meanwhile, the authors do an extensive validation of the performance of XACT from solution of filter-based metals measurement which they extract a correction factor applied to their data. Overall, this is a nice work and I recommend it for publication.

Comments: The technical aspects were adequately covered by the referee 1. Particu-

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larly, I am also interested in seeing if precipitation produces substantial scavenging of airborne trace metals. Several typical events with strong precipitation can be selected as a better way, in my opinion, to examine the effect of wet removal in the supplement.

Title: Given that the focus of the MS is trace metals, I suggest the title can be changed as “First long-term and near real-time measurements of atmospheric trace metals in Shanghai, China”.

Table 1: Data of Shanghai should be listed adjacent to that of Gwangju.

Fig. 1: I didn't see (a), (b), (c), (d), and (e) in the figure. Moreover, please specify the data sources of population density and major point sources.

Fig. 6: It could be a problem that the variations of wind directions and the mass concentrations of V and Ni are normalized together. I suggest the authors to re-plot Fig. 6 by excluding wind directions.

Line 236: Is there necessary to use data like CO, NO₂, and SO₂ in the study?

Line 457: 3.2.1 Pinpoint the most possible source.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2017-613>, 2017.

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