

Additional answer to general comment on Enrichment factors by referee #2.

1. We decided finally to include in the final revised version not the ratio of the concentrations versus the mean crustal component, but the actual Enrichment factors. The final text will be:

*The Enrichment Factors (EF) may be calculated by normalizing the levels of specific major and trace elements versus the content of an individual crustal component, such as Al, and this being divided by the same ratio of the mean upper crust contents (Rudnick and Gao, 2003) of the same elements. For example, the EF of arsenic may be obtained from:*

*$EF_{As} = (As_{PM}/Al_{PM}) / (As_{crust}/Al_{crust})$ . If EF values are close to 1, the specific element occurs in PM in similar concentrations than in the upper crust, if EF reaches values much higher than 1, then the element is mainly supplied to PM by non crustal sources.*

*If EF values are calculated for the elements analyzed in the PM2.5 from S-L9 and F-L3 platforms the following evidences were obtained:*

- *EF from 0.5 to 3: Ti, K, Rb, Y, REEs, Na, Mg and Sr at S-L9.*
- *EF from 3 to 15: Ca, Li, V, Ga, Nb, Th and Mg; Ba and Zr at S-L9; and Sr at F-L3.*
- *EF from 15 to 150: Mn, Cr, Co, Ni, Ge, Pb, U, W, As at S-L9 and Zr at F-L3.*
- *EF > 150: Fe (180), Cd (200), As at F-L3 (300), Ba at F-L3, Zn (450), Sn (450-900), Mo (450-3800), Cu (1000-2500) and Sb (7400 and 15700).*

*According to these results, only from 0.5-1.1 % Fe<sub>2</sub>O<sub>3</sub> may be supplied by crustal sources (mostly resuspension and erosion), the vast majority arising from mechanical abrasion of wheels, rails and brakes.*

*When the EFs are calculated for the outdoor PM2.5 values of the highest EF group varied markedly:*

- *EF decreasing from the subway to outdoor PM2.5: Fe (from 180 to 3), Mn (from 60 to 10), As (from 300 to 48), Ba (from 450 to 5), Cu (2500 to 275) and Sb (15700 to 1925). The still relative high outdoor values are due to high brake and tyre dust contributions in urban air for these metals.*
- *EF increasing in outdoor PM2.5: Cd (855), Zn (805), Mo (1120) and Sn (1027) also mostly supplied by industrial and traffic sources; Ni and V (48) supplied by fuel oil combustion; Na (10) from sea salt; and K (7) from biomass burning.*

2. We added and discussed results from the following references:

*Salma I., 2009. Air pollution in underground railway systems. In: Harrison, R.M., Hester, R. (Eds.), Issues in Environmental Science and Technology. Air Quality in Urban Environments, vol. 28. Royal Society of Chemistry Publishing, Cambridge, 64–83.*

*Salma I., Pósfai M., Kovács K., Kuzmann E., Homonnay Z., Posta J., 2009. Properties and sources of individual particles and some chemical species in the aerosol of a metropolitan underground railway station. Atmospheric Environment, 43, 22–23, 3460-3466.*

*Sitzmann B., Kendall M., Whatt J., Williams I., 1999. Characterisation of airborne particles in London by computer-controlled scanning electron microscopy. The Science of the Total Environment 241, 63-73.*