

Sources and geographical origins of fine aerosols in Paris (France)

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Supplementary material for Referee 3

Table A.3.2. Correlation (Pearson coefficient, R) between PMF factor time series and their presumable tracers.

	SO ₄	NO ₃	V	NOx	BCff	Lev	Mann	BCwb	Na	Cl	Mg	Pb	Cd
A.S. rich factor	0.85	0.58	0.07	0.25	0.25	0.21	0.34	0.20	-0.30	-0.17	-0.32	0.51	0.40
A.N. rich factor	0.73	0.99	0.24	0.27	0.19	0.29	0.39	0.31	-0.24	-0.03	-0.26	0.43	0.52
Heavy oil combustion	0.35	0.11	0.75	0.09	0.22	-0.06	-0.05	-0.01	-0.25	-0.26	-0.16	0.29	0.27
Road traffic	-0.09	-0.15	0.08	0.50	0.50	-0.01	0.01	0.14	-0.25	-0.23	-0.19	0.23	0.20
Biomass burning	0.21	0.44	0.12	0.61	0.22	0.99	0.98	0.89	-0.12	0.18	-0.17	0.42	0.31
Marine aerosols	-0.45	-0.25	-0.25	-0.20	-0.22	-0.11	-0.15	-0.14	0.91	0.82	0.88	-0.35	-0.37
Metals industry	0.33	0.33	0.42	0.36	0.32	0.21	0.28	0.27	-0.19	-0.07	-0.20	0.85	0.92

Legend: BCff: fossil fuel black carbon, Lev: levoglucosan, Mann: mannosan, BCwb: wood burning black carbon. Pearson coefficients higher than 0.5 are indicated in bold.

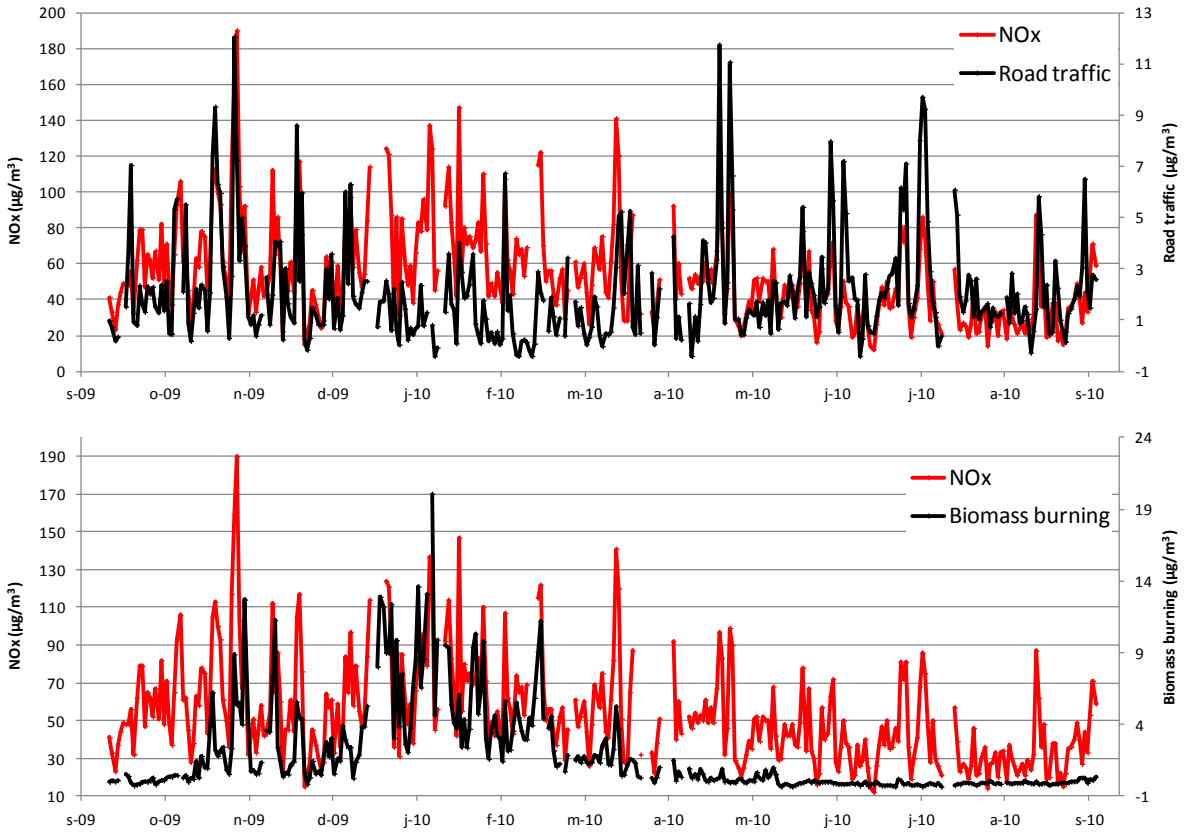


Fig. A.3.2.a. Comparison between NOx and Road traffic (top) or Biomass Burning (bottom) PMF factors.

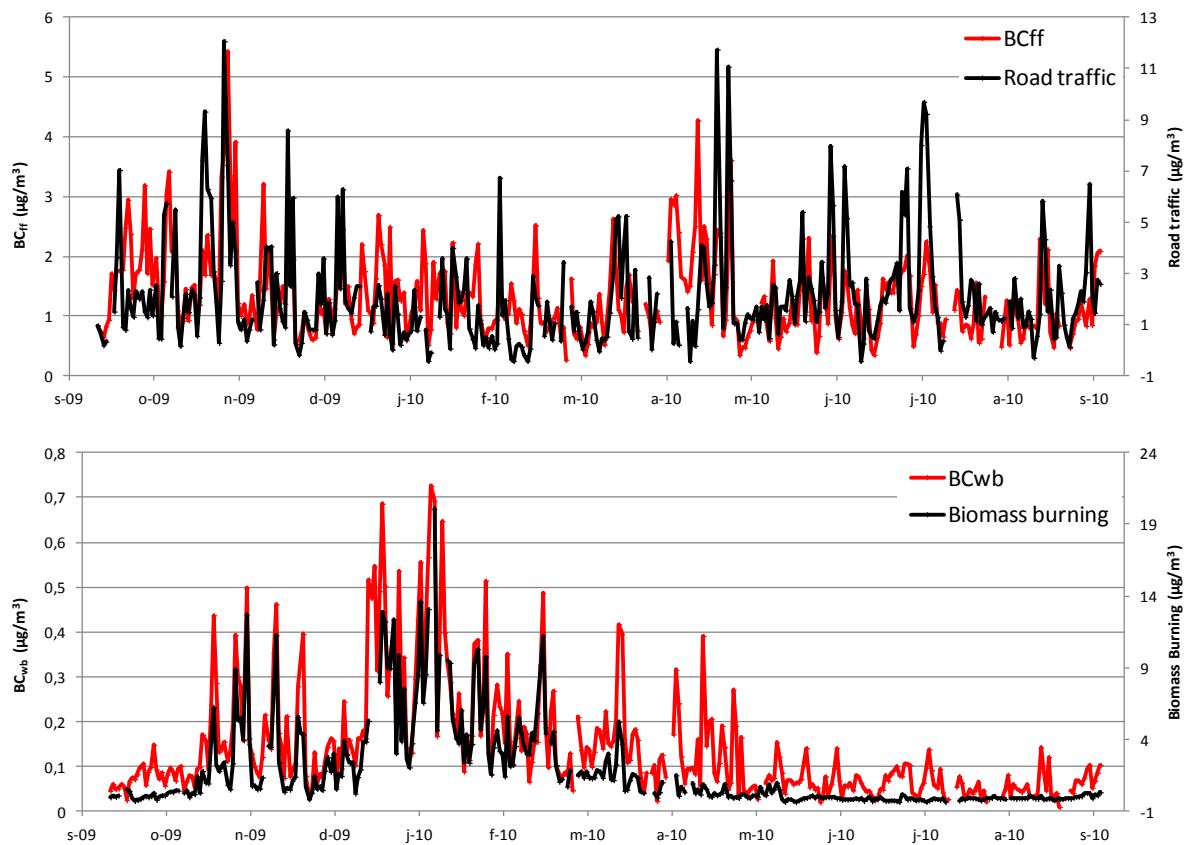


Fig. A.3.2.b. Comparison between BC_{ff} and Road traffic (top), and BC_{wb} and Biomass Burning (bottom). Legend: BC_{ff}: fossil fuel Black Carbon, BC_{wb}: wood burning Black Carbon (see comment A.3.2. for further explanations).

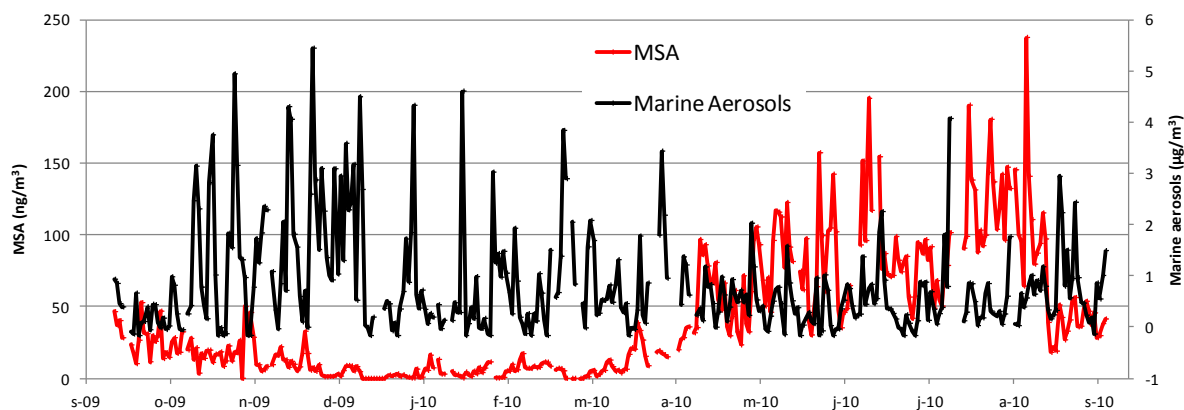


Fig. A.3.3.a. Comparison between methane sulfonic acid (MSA) and marine aerosols temporal variations (adapted from Bressi, 2013).

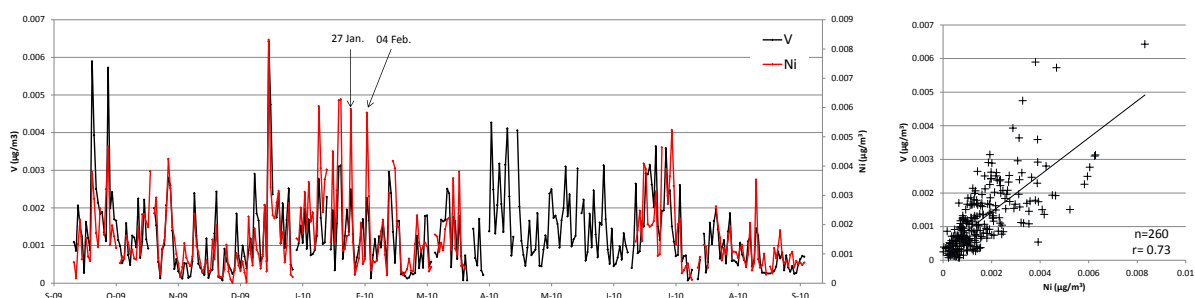


Fig. A.3.3.b. Comparison between Vanadium and Nickel temporal variations.

Note 1: for Ni, the period April-May is not shown here for clarity since most of the days have been replaced by the median of Ni concentrations (see Table S2 and comment p33251, l13-15). These values have been downweighted in our PMF analysis (see Sect. S1).

Note 2: some days exhibit lower V/Ni ratios but air mass origins are not sufficient to explain these observations (e.g. same V/Ni ratios of 0.4 observed on 27 January 2010 and 04 February 2010 but different air masses originating from Benelux and the Atlantic ocean, respectively).