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Emission sources estimation of size-segregated suburban aerosols measured in continental part of Balkan region using PMF5.0 multivariate receptor model

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Using Low-Pressure Cascade Impactors by Dr Berner size segregated particulate matter in the size ranges: 0.27 $\leq$ Dp $\leq$ 0.53 [U+F06D]m, 0.53 $\leq$ Dp $\leq$ 1.06 [U+F06D]m, 1.06 $\leq$ Dp $\leq$ 2.09 [U+F06D]m, 2.09 $\leq$ Dp $\leq$ 4.11 [U+F06D]m, 4.11 $\leq$ Dp $\leq$ 8.11 [U+F06D]m and 8.11 $\leq$ Dp $\leq$ 16 [U+F06D]m were collected. Forty-eight-hour size segregated particulate matter samples from atmospheric aerosols in the sub-urban site of Belgrade were measured during two years (in 2012th to 2013in).
ICP-MS was used to quantify next elements: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Hg, Na, Ni, Mg, Mn, Mo, Pb, Se, Sb, Ti, Tl, V and Zn.
In order to examine the number of sources and their fingerprints, EPA PMF 5.0 multivariate receptor tool was used. Error estimation methods (bootstrap, displacement, and bootstrap enhanced by displacement) in the analysis of the obtained solutions have enabled proper detection of the number and types of sources. This analysis of the results indicated the existence of four main sources that contribute to air pollution in the suburban area of Belgrade.