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## **TWO CASE STUDIES OF PARTICULATE MATTER EMISSIONS FROM POWER PLANTS**

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### **Abstract**

The present paper points out the importance of environmental ambient monitoring evaluation related to particulate matter emissions into the atmosphere. The first part of our work focuses on primary and secondary particulate matter characteristics and methods for ambient environmental monitoring. Particulate matter measurements can be performed by direct or indirect methods. In both USA and Europe direct measures are in place and are set wholly in terms of the mass particles following generally the quantitative aspects. Indirect methods are in some way equivalent to the reference one, but adopt different measuring principle; three main classes can be distinguished: Beta gauge, TEOM and light scattering. In the second part of our work, results of the Operational Priority Substance (OPS) dispersion model were applied in order to estimate PM<sub>2.5</sub> from gaseous precursors for two case studies, in Italy and Romania. This work is made in order to have a qualitative characterization and to individualize methods used also for a monitoring campaign which was made in South-West Romania, close to a thermoelectric plant. Some considerations on power plants' role related to primary and secondary particulate matter production are also included.

*Key words:* ambient monitoring, gaseous precursors, off-gas treatment, particles

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