

**SIMULATION OF DISPERSION AND DEPOSITION OF GASEOUS AND
PARTICULATE ATMOSPHERIC POLLUTANTS**

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ABSTRACT

A mathematical model is presented for the simulation of the flow and transport phenomena during dispersion and deposition of gaseous and particulate pollutants in the atmosphere from an emission source. The model is based on the solution of the Navier-Stokes flow equations in an Eulerian frame in combination with a Lagrangean treatment for the description of the particle dynamics. The model is applied in a neutral turbulent atmospheric boundary layer and for 2-D and 3-D emission sources. The results of the parametric study allow for comparisons to be made and conclusions to be drawn for the dispersion and deposition of pollutants in 2-D and 3-D geometries.