

ESTIMATION OF PARTICULATE MATTER CONCENTRATIONS IN THE GREATER ATHENS AREA BY MEANS OF THE UAM-AERO MODEL

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EXTENDED ABSTRACT

The problem of air pollution in Athens has been of great concern for the last 30 years, because of the imposed state and Commission of the European Communities limits on ambient O₃ and NO₂ concentrations. Thinking that Athens will be the organizer city of the 2004 Olympic Games and the fact that Athens faces several air pollution episodes during the summer season, a more detailed analysis should be done in order to study this problem. Air quality modelling, supported by monitoring activities, seems to be the only practical way today to cope with such a complex problem. In this work we use a three dimensional gas-aerosol model, called UAM-AERO, in order to estimate the levels of gaseous pollutants and particulate matter in the Greater Athens Area during the severe episodes of May 25, 1990 and July 7, 1994. The estimated concentrations of O₃, NO and NO₂ are compared with measured values, in order to evaluate the performance of the model.

Key words: particulate matter, aerosol, Athens, photochemical model