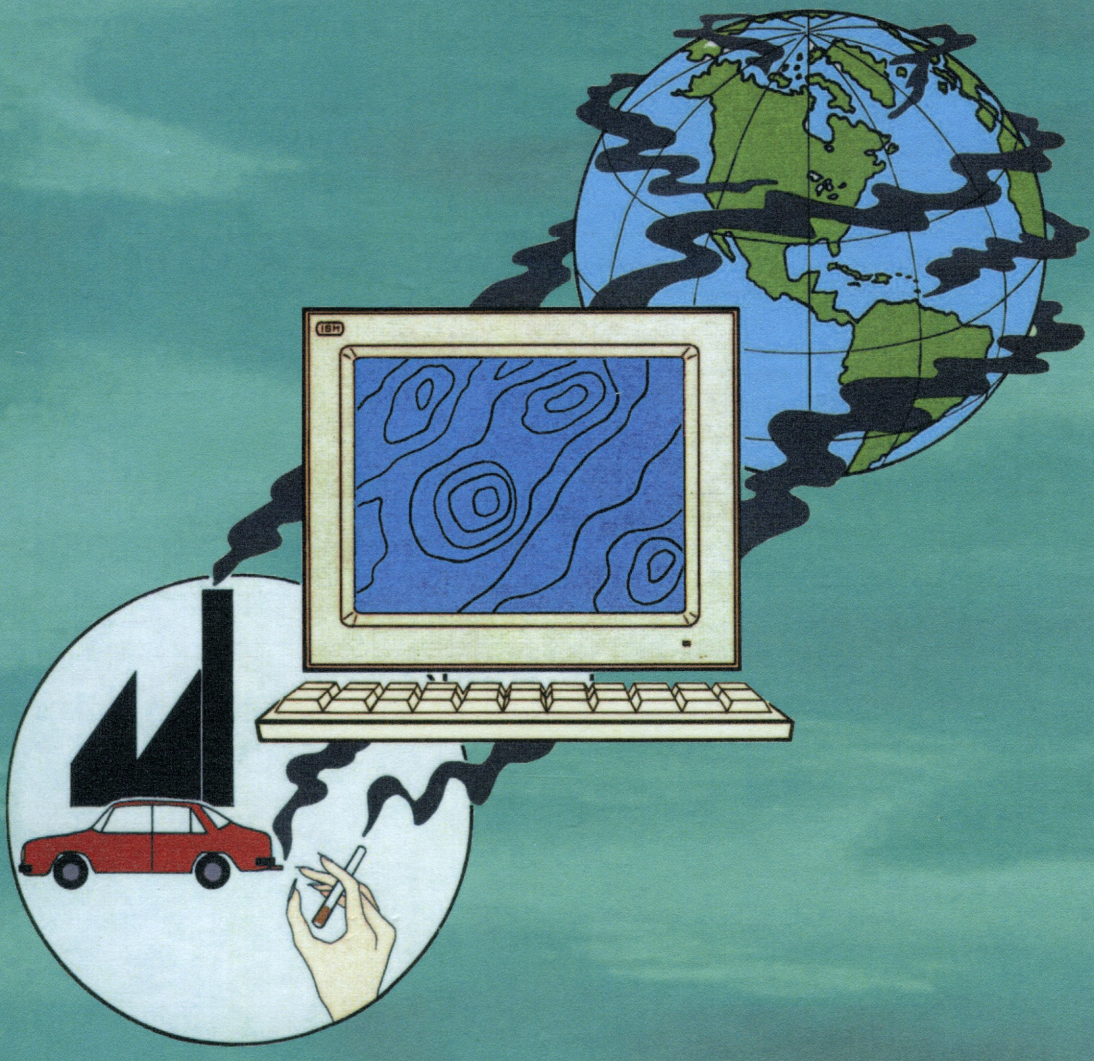
AIR POLLUTION MODELING

Theories, Computational Methods and Available Software

Paolo Zannetti



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Mathematical modeling of air pollution has grown enormously over the last two decades in response to ever-increasing demands to understand and manage air resources. Air Pollution Modeling, the first comprehensive text on this subject, provides both an historical perspective on the evolution of mathematical modeling techniques as well as a carefully-developed survey of contemporary modeling methods. Dr. Zannetti's book fills a long-standing void in this area of environmental science. Air Pollution Modeling will no doubt become a mainstay in the library of air quality scientists, practitioners and managers as well as educators in this field.

Based on a clearly-presented foundation of chemical and physical principles, Air Pollution Modeling introduces relevant historical and recently developed examples of modeling techniques for traditional problems including point source dispersion, plume rise, windfield estimation, and surface deposition. Supplementing these are discussions on a number of contemporary and emergent air quality modeling issues including visibility, dense gas dispersion, indoor air pollution, photochemical oxidants, and global air quality. Complementing the treatment of numerical modeling methods is a chapter on statistical and empirical techniques useful in establishing source-receptor relationships, analysing aerometric data and evaluating the performance of models. Air quality practitioners and students will find the survey on available modeling codes and software to be particularly helpful.
The field of air pollution modeling is expanding rapidly in response to an increasingly complex set of social, political and technological issues. In Air Pollution Modeling, Dr Zanetti has provided an invaluable resource to those in the scientific, educational and public policy communities dealing with these problems.

From a review by: T. W. Tesche PhD

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