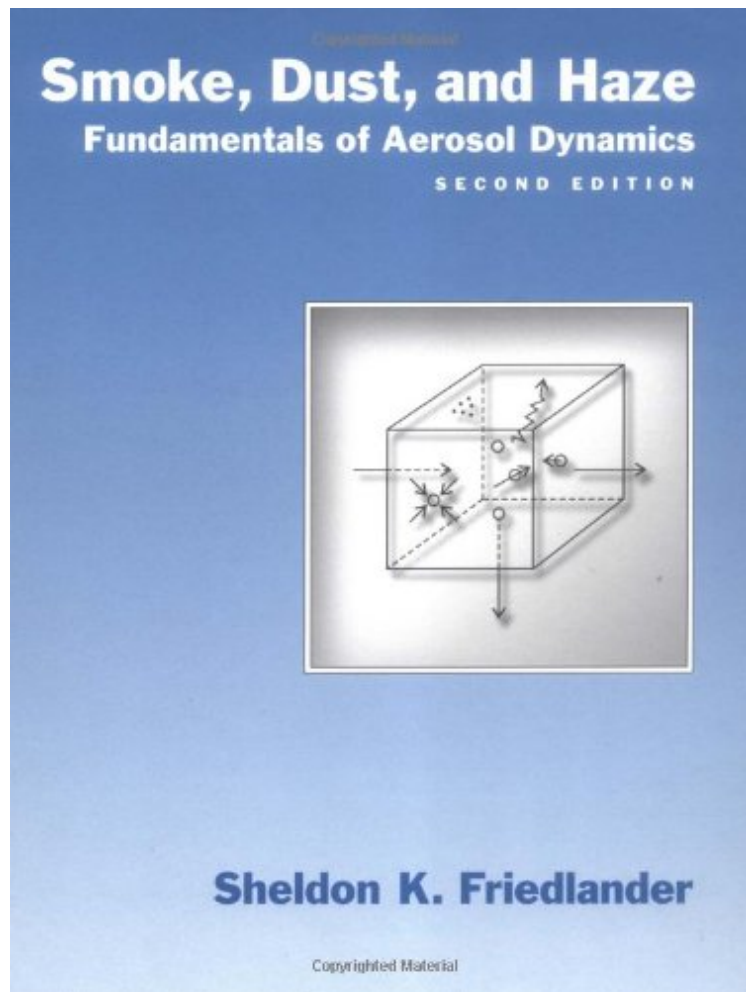


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Smoke, Dust, and Haze: Fundamentals of Aerosol Dynamics (Topics in Chemical Engineering)

Sheldon K. Friedlander

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reference book in industry. 0 of 4 people found the following review helpful. Very good analyzedBy A CustomerThis book offered a very good description of the related problem. All the aspects of the problem are explained in details.

Ideal for courses in aerosol science or particle technology, *Smoke, Dust, and Haze: Fundamentals of Aerosol Dynamics, 2/e*, is the only modern text that focuses on aerosol dynamics--the study of the factors that determine changes in the distribution of aerosol properties with respect to particle size. It covers fundamental concepts, experimental methods, and a wide variety of applications. Using the aerosol dynamics approach, the author integrates a broad range of topics including stochastic processes, aerosol transport theory, coagulation, formation of agglomerates, classical nucleation theory, and the synthesis of ultrafine solid particles. The book makes extensive use of scaling concepts and dimensional analysis and emphasizes physical and physicochemical interpretations. Basic concepts are illustrated by applications to many fields including air pollution control, the atmospheric sciences, microcontamination in the semiconductor industry, and the industrial manufacture of powders, pigments, additives, and nanoparticles. Revised and expanded, this second edition features new chapters on the kinetics of agglomeration of noncoalescing particles and the fundamentals of aerosol reactor design. It covers the effects of turbulence on coagulation and gas-to-particle conversion and also discusses the formation of primary particles by the collision-coalescence mechanism. The chapter on the atmospheric aerosol has been completely rewritten within the aerosol dynamics framework. Its basic approach and topicality make *Smoke, Dust, and Haze: Fundamentals of Aerosol Dynamics, 2/e*, an essential guide for both students and researchers.

Praise for the previous edition: "The reader of this excellent senior- or first-year-graduate level text will recognize the catholic nature of the material treated. Sheldon Friedlander...is probably America's pre-eminent investigator of aerosols, by virtue of his theoretical and experimental work conducted in a variety of areas since the 1950's....*Smoke, Dust and Haze* is the first published book on aerosols written primarily for classroom use. It was written explicitly for chemical- and environmental-engineering first-year-graduate students but it could serve excellently as a physics course to introduce students to the nature of applied science."--*Physics Today* About the Author Sheldon K. Friedlander is at University of California, Los Angeles.