



# Principles of Gas-Solid Flows (Cambridge Series in Chemical Engineering)

By Liang-Shih Fan, Chao Zhu

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Gas-solid flows are involved in numerous industrial processes and occur in various natural phenomena. This authoritative book addresses the fundamental principles that govern gas-solid flows and the application of these principles to various gas-solid flow systems. The book is arranged in two parts: Part I deals with basic relationships and phenomena, including particle size and properties, collision mechanics, momentum transfer, heat and mass transfer, basic equations, and intrinsic phenomena in gas-solid flows. Part II discusses gas-solid flow systems of industrial interest such as gas-solid separators, hoppers and standpipes, dense-phase fluidized beds, fluidized beds, pneumatic conveying systems, and heat and mass transfer in fluidization systems. As a comprehensive text on gas-solid flows, which includes end-of-chapter problems, this book is aimed at students, but will also be useful to a broad range of engineers and applied scientists. Solutions manual available.

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"...a comprehensive and authoritative source of information on gas-solid flows that also serves as a useful reference for the student, academician, research scientist, and engineering practitioner. A detailed subject index is included. Principles of Gas-Solid Flows is highly recommended for individuals and technical libraries as a primary reference source on the subject of gas solid flows as a consequence of the depth, breadth and clarity of coverage of the material." Applied Mechanics Reviews

"The broad coverage provided by this book makes it an excellent source of information for those who need to understand the rudiments of gas/solid flow and how these principles are exploited by industry." Chemical Engineering Progress

"Overall, the book is well written...It succeeds in its objective of providing a comprehensive overview of gas-solid flow systems and is to be thoroughly recommended to those just entering the field as well as to those practitioners seeking an up-to-date review of areas that may be peripheral to their specializations." TransIChemE

"This is a well-written book on gas-solid flows written from the particle technology perspective...a well-illustrated, integrated, and authoritative account of the basic principles that include the essential physics underlying gas-solid flows...contains excellent classical and state-of-the-art material on applications of gas-solid flow systems." International Journal of Multiphase Flow

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