



Micro and Macro Mixing: Analysis, Simulation and Numerical Calculation (Heat and Mass Transfer)

By Henning Bockhorn; Dieter Mewes; W. Peukert; Hans-Joachim Warnecke

Springer, 2010. Hardcover. Book Condition: New. The homogenization of single phase gases or liquids with chemical reactive components by mixing belongs to one of the oldest basic operations applied in chemical engineering. The design of equipment for mixing processes is still derived from measurements of the mixing time which is related to the applied methods of measurement and the special design of the test equipment itself. This book was stimulated by the Priority Program on "Flow Mixing" financially supported by the Deutsche Forschungsgemeinschaft (DFG). Results are improved modern methods for experimental research and visualization, for simulations and numerical calculations of mixing and chemical reactions in micro and macro scale of time and local coordinates. The results are aimed to improve the prediction of efficiencies and selectivities of chemical reactions in macroscopic scale. The book should give an understanding of the influence of the construction of different mixing equipment on to the momentum, heat and mass transfer as well as reaction processes running on microscopic scales of time and local coordinates. Newly developed methods of measurement are adjusted to the scales of the selected special transport and conversion processes. They allow a more detailed modeling of the mixing processes by the...



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