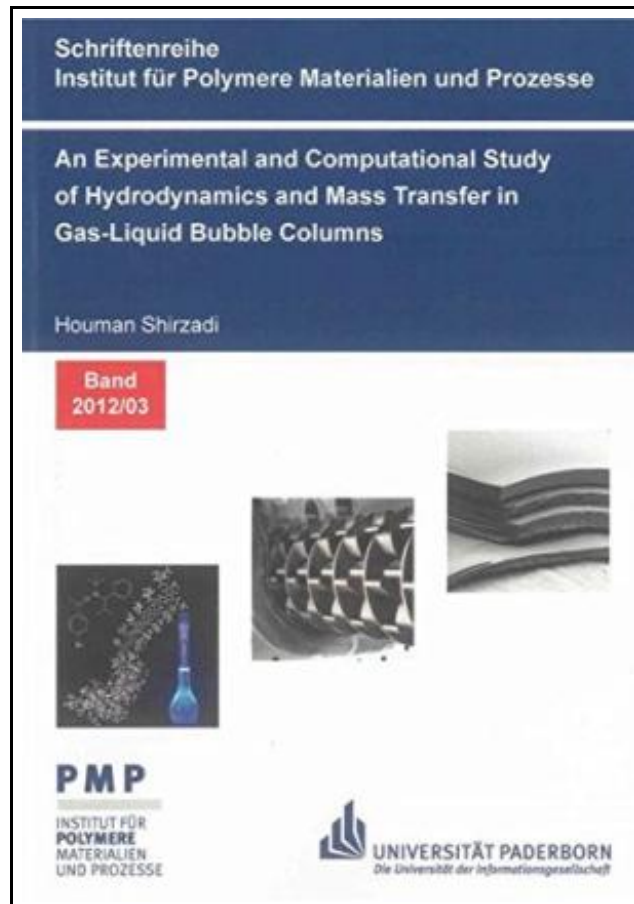


An Experimental and Computational Study of Hydrodynamics and Mass Transfer in Gas-Liquid Bubble Columns



Filesize: 7.19 MB

Reviews

This book is great. it absolutely was writtern really perfectly and beneficial. You may like how the blogger compose this book.

(Pink Haley)

AN EXPERIMENTAL AND COMPUTATIONAL STUDY OF HYDRODYNAMICS AND MASS TRANSFER IN GAS-LIQUID BUBBLE COLUMNS

[DOWNLOAD](#)

Shaker Verlag Apr 2012, 2012. Buch. Book Condition: Neu. 208x152x10 mm. Neuware - In this thesis with the aid of experimental measurements and CFD modelling validations, the hydrodynamics and mass transfer in the gas-liquid bubble columns have been simulated. For this purpose, the commercial CFD-software ANSYS CFX has been applied. The experiments have been carried out with a laboratory scale bubble column and could be divided into two distinct parts; first part, studying the hydrodynamics i.e. the axial dispersion coefficient and the gas hold-up inside the bubble column with respect to the different flow rates of gas and liquid phase and the second part, studying the mass transfer i.e. the volumetric mass transfer coefficient, again with respect to the different flow rates. Following the experimental studies, the respective CFD model with the Eulerian- Eulerian approach and a single sized bubble as the disperse phase was set to simulate the flow field. For this purpose different closure models such as turbulence and drag models have been examined and these results were compared with the experimental data. Furthermore, a mass transfer model has been developed in order to account for the mass transfer between the phases. For this part of the simulations, the volumetric mass transfer coefficients obtained from the experiments, were set into the CFD model for the numerical calculations. Therefore, the respective experimental flow conditions were applied in the simulations to validate the CFD model. It was observed that the hydrostatic pressure inside the bubble column plays an important role in the mass transfer between the two phases. Finally, the simulation results show that the Euler model with all its simplifications is still an appropriate and cost effective approach for the numerical simulation of the two phase flow in the bubble column reactors. 118 pp. Englisch.



[Read An Experimental and Computational Study of Hydrodynamics and Mass Transfer in Gas-Liquid Bubble Columns Online](#)



[Download PDF An Experimental and Computational Study of Hydrodynamics and Mass Transfer in Gas-Liquid Bubble Columns](#)

Other Kindle Books



Programming in D

Ali Cehreli Dez 2015, 2015. Buch. Book Condition: Neu. 264x182x53 mm. This item is printed on demand - Print on Demand Neuware - The main aim of this book is to teach D to readers...

[Read Book »](#)



Psychologisches Testverfahren

Reference Series Books LLC Nov 2011, 2011. Taschenbuch. Book Condition: Neu. 249x191x7 mm. This item is printed on demand - Print on Demand Neuware - Quelle: Wikipedia. Seiten: 100. Kapitel: Myers-Briggs-Typindikator, Keirsey Temperament Sorter, DISG,...

[Read Book »](#)



Hands Free Mama: A Guide to Putting Down the Phone, Burning the To-Do List, and Letting Go of Perfection to Grasp What Really Matters! (Paperback)

ZONDERVAN, United States, 2014. Paperback. Book Condition: New. 211 x 137 mm. Language: English . Brand New Book. Rachel Macy Stafford's post The Day I Stopped Saying Hurry Up was a true phenomenon on...

[Read Book »](#)



The Trouble with Trucks: First Reading Book for 3 to 5 Year Olds

Anness Publishing. Paperback. Book Condition: new. BRAND NEW, The Trouble with Trucks: First Reading Book for 3 to 5 Year Olds, Nicola Baxter, Geoff Ball, This is a super-size first reading book for 3-5 year...

[Read Book »](#)



The Java Tutorial (3rd Edition)

Pearson Education, 2001. Softcover. Book Condition: Neu. Gebraucht - Sehr gut Unbenutzt. Schnelle Lieferung, Kartonverpackung. Abzugsfähige Rechnung. Bei Mehrfachbestellung werden die Versandkosten anteilig erstattet. - Praise for "The Java' Tutorial, Second Edition" includes: "This book...

[Read Book »](#)