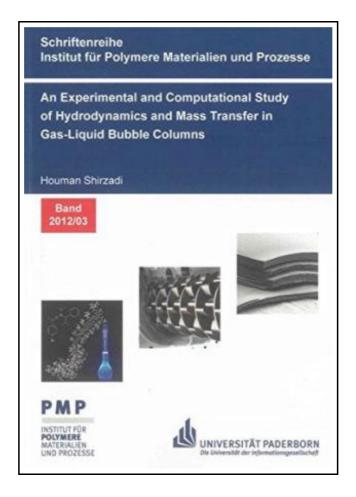
# An Experimental and Computational Study of Hydrodynamics and Mass Transfer in Gas-Liquid Bubble Columns



Filesize: 6.91 MB

#### Reviews

This publication is fantastic. It is one of the most amazing publication i have got study. I am just pleased to explain how this is actually the best pdf i have got read through in my individual lifestyle and could be he finest publication for possibly.

(Mr. Kristoffer Hills)

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



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

#### **Related Books**



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!

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...

Save ePub »



Everything Ser The Everything Green Baby Book From Pregnancy to Babys First Year An Easy and Affordable Guide to Help Moms Care for Their Baby And for the Earth by Jenn Savedge 2009 Paperback

Book Condition: Brand New. Book Condition: Brand New.

Save ePub »



A Smarter Way to Learn Jquery: Learn It Faster. Remember It Longer.

Createspace Independent Publishing Platform, United States, 2016. Paperback. Book Condition: New. 254 x 178 mm. Language: English. Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*\*. Youre going to get the hang of jQuery in less...

Save ePub »



Decameron and the Philosophy of Storytelling: Author as Midwife and Pimp (Hardback)

Columbia University Press, United States, 2005. Hardback. Book Condition: New. New.. 236 x 155 mm. Language: English . Brand New Book. In this creative and engaging reading, Richard Kuhns explores the ways in which Decameron...

Save ePub »



Games with Books: 28 of the Best Childrens Books and How to Use Them to Help Your Child Learn - From Preschool to Third Grade

 $Book\,Condition; Brand\,New.\,Book\,Condition; Brand\,New.$ 

Save ePub »



## Dont Line Their Pockets With Gold Line Your Own A Small How To Book on Living Large

Madelyn D R Books. Paperback. Book Condition: New. Paperback. 106 pages. Dimensions: 9.0in. x 6.0in. x 0.3in. This book is about my cousin, Billy a guy who taught me a lot over the vears and who

Save Document »



## Who Am I in the Lives of Children? an Introduction to Early Childhood Education with Enhanced Pearson Etext -- Access Card Package

Pearson, United States, 2015. Paperback. Book Condition: New. 10th. 251 x 203 mm. Language: English. Brand New Book. NOTE: Used books, rentals, and purchases made outside of Pearson If purchasing or renting from companies

Save Document »



Two Treatises: The Pearle of the Gospell, and the Pilgrims Profession to Which Is Added a Glasse for Gentlewomen to Dresse Themselues By. by Thomas Taylor Preacher of Gods Word to the Towne of Reding. (1625)

Proquest, Eebo Editions, United States, 2010. Paperback. Book Condition: New. 246 x 189 mm. Language: English Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. EARLY HISTORY OF RELIGION. Imagine holding history in your hands. Now you

Save Document »



The About com Guide to Baby Care A Complete Resource for Your Babys Health Development and Happiness by Robin Elise Weiss 2007 Paperback

Book Condition: Brand New. Book Condition: Brand New.

Save Document »



#### Peppa Pig: School Bus Trip - Read it Yourself with Ladybird

Penguin Books Ltd. Paperback. Book Condition: new. BRAND NEW, Peppa Pig: School Bus Trip - Read it Yourself with Ladybird, Peppa and her friends are going on a school bus trip. What adventures will they

Save Document »