

CONTENTS

1. Fluidized bed reactor modeling: an overview	3
2. An initial value approach to the counter – current – current backmixing model of the fluid bed	19
3. Predictions of fluidized bed operation under two limiting conditions: reaction control and transport control	31
4. Simulation of a fluidized bed reactor for the production of maleic anhydride	55
5. A model for a gas – solid fluidized bed filter	75
6. Modeling and simulation of dynamic and steady – state characteristics of shallow fluidized bed combustors	95
7. Modeling of fluidized bed Combustion of coal char containing sulfur	117
8. Computer modeling of fluidized bed coal gasification reactors	157
9. Study of the behavior of heat and mass transfer coefficient in gas-solid fluidized bed systems at low Reynolds numbers	185
10. Bubble column: an overview	203
11. Access of hydrodynamic parameters required in the design and scale – up bubble column reactors	213
12. A new model for heat transfer coefficients in bubble columns	243
13. Dispersion and hold – up bubble columns	255
14. Packed bed reactors: an overview	279
15. Solution of packed - bed heat - exchanger models by orthogonal collocation using piecewise cubic hermite functions	287
16. An analysis of radial flow packed bed reactors: how art they different?	305
17. Moving bed coal gasifier dynamics using MOC and MOL techniques	331
18. Fixed bed reactors with deactivating catalysts	367
19. Index	385