

Index

A

- Adsorption—heterogeneous reaction—
desorption mechanism, 107
- Adsorption efficiency, 88
- Area-weighted mean droplet
diameter, 196
- Artificial compressibility
equation, 35

B

- Boudouard reaction, 210
- Break-up, 197
- Brinkman law, 24
- Bruggeman correlation, 213
- Bubbles, 194
- Building materials, 193

C

- Characteristic time, 107
- Coalescence, 197
- Concentration, 7
- Continuity equation, 26
- Convection-diffusion equation, 88
- Cracking reaction, 210
- CUBISTA, 151
- Current conservation
equation, 213
- Cylinder-in-cell model, 29

D

- Darcy law, 24
- Droplets, 194

E

- Effective mass diffusion
coefficient, 213
- Effective thermal conductivity, 212
- Electrochemical reactions, 209
- Evaporation potential, 183
- Experimental methods, 3

F

- Fick's law, 40, 211
- Fuel cells, 207

G

- Gas flow, 55

H

- Happel's sphere-in-cell
model, 29
- High-resolution scheme, 151

I

- Instantaneous adsorption, 90

K

- Kuwabara's sphere-in-cell model, 27

L

- Laminar liquid flow, 52
- Langmuir's isotherm, 90

M

Mach number, 35
Mass transport coefficient, 88
Mass-transfer coefficient, 115
Moisture transfer, 185
Moments of the distribution, 195

N

Numerical methods, 150

O

Ohm's law, 213
Overpotential, 214

P

Peclet number, 88
Permeability, 25
Phase function, 23

R

Realistic sorption mechanism, 90
Relative humidity, 183

Representation of 3-D Sphere

Assemblages, 33

Reynolds number, 2

S

Sharp front model, 183
Sherwood number, 89
Sinusoidal cell, 8
SOFC, 207
Sphere-in-cell model, 6
Spheroid-in-cell model, 8
Steam reforming reaction, 209
Stokes equation, 26

U

Unit-bed element, 8

V

Volume-averaging procedure, 114

W

Water gas shift reaction, 209