Critical Regimes Of Two-phase Flows With A Polydisperse Solid Phase

DOWNLOAD HERE

1;FM;2 1.1;Critical Regimes of Two-Phase Flowswith a Polydisperse Solid Phase;2 1.2;Critical Regimes ofTwo-Phase Flows with aPolydisperse Solid Phase;4 1.3; Annotation;6 1.4; Introduction;8 1.5; Contents;14 2; Chapter 1: General Ideas of Mass Transfer Processes in Critical Regimes; 18 2.1; Granulometric Characteristics of Bulk Material; 18 2.2; Distribution of Different Fractions in the Process of Separation; 22 2.3; Fractional Separation Curves and Their Properties; 24 2.3.1; Initial Composition; 27 2.3.2; Solid Phase Concentration in the Flow;28 2.3.3; Process Stability;30 2.3.4; Flow Velocity and Particle Size;30 3; Chapter 2: Principles of Modeling Processes in Moving Media; 35 3.1; Correlation Between a Full-Scale Process and Its Model;35 3.2; Mathematical Models Construction;37 3.3; Similarity Criteria Determination; 42 4; Chapter 3: System of Particles of the Same Size Class in a Critical Flow; 48 4.1; Dynamics of Mass Motion of Particles in a Flow; 48 4.2; Definition of a Statistical System; 53 4.3; Estimation of the State of a Statistical System; 59 4.4; Principal Statistical Characteristics of the Separation Factor;68 5; Chapter 4: System of Particles of Several Size Classes;73 5.1; Interaction of Particles in a Flow;73 5.2; Forces Caused by Interactions of Particles of Various Classes;78 5.3; Two-Phase Flow Entropy in Critical Flow Regimes; 81 5.4; Main Features of Entropy in Critical Regimes;87 5.5;Mobility Factor;95 5.6;Statistical Identities;100 6;Chapter 5: Principal Statistical Relations of Mass Transfer in Critical Flow;106 6.1; Mass Exchange Between the Zone and the Apparatus;106 6.2; Determination of Average Values; 109 6.3; Cell and Apparatus, Entropy; 111 6.4; Separation at Low Concentrations; 113 6.5; General Regularities for the Zone; 117 7; Chapter 6: Correlation Between the Apparatus and the Cell;119 7.1; Coarse Particles Separation;119 7.2; Fine Particles Separation;120 7.3; Definition of Mass Transfer Parameters; 121 7.4; Cellular Model of Separation; 126 7.5; Physical Meaning of Separation Factors;130 7.5.1; Chaotizing Factor;130 7.5.2; Flow Mobility;130 7.5.3; Separation Factor;130 7.5.4;Concentration Effect;131 7.5.5;Potential Extraction;133 7.6;Extraction from a Cell Located in the Zone;134 8; Chapter 7: Structural Model of Mass Transfer in Critical Regimes of Two-Phase Flows;137 8.1; Validation of the Distribution Coefficient;137 8.2; Physical Meaning of the

Distribution Coefficient;139 8.2.1; Turbulent Overflow of Particles and Turbulent Regime of the Medium Motion in the Apparatus;144 8.2.2;Laminar Overflow Regime;146 8.2.3;Intermediate Regime of Overflow;147 8.3; Analysis of Distribution Coefficient;148 8.4; Analysis of Experimental Dependencies from the Standpoint of Structural Models;153 8.5; Check of the Structural Model Adequacy;159 8.6; Correlation Between the Structural and Cellular Models of the Process;163 9;Chapter 8: Correlation Between Statistical and Empirical Results;165 9.1;Approximation of Universal Separation Curve;165 9.2;Principal Separation Parameters Depending on the Apparatus Height; 168 9.3; Equal Extractability of Various Size Classes;172 10;Chapter 9: Entropy of Composition: Optimization Criterion;181 10.1;Entropy and Particles Stratification; 181 10.2; Evaluation of Heterogeneity of Powder Composition; 185 10.3; Binary Separation; 187 10.4; Multi-product Separation; 188 10.5; Algorithms of Optimization of Separation into n Components;189 10.5.1;Algorithm 1: Complete Sorting-Out;190 10.5.2;Algorithm 2: Greedy Algorithm; 190 10.5.3; Optimization of Separation into Four Components; 192 10.6; Mathematical Model of Separation into n Components;198 10.7;Optimum Conditions for Binary Separation;199 10.8;Optimum Conditions for Multi-Product Separation; 201 11; Chapter 10: Stability and Kinetic Aspects of Mass Distribution in Critical Regimes;208 11.1;Entropy Stability;208 11.2;Particles Distribution over the Channel Height; 215 11.3; Velocity Distribution of Particles of a Narrow S EAN/ISBN: 9789048188383 Publisher(s): Springer Netherlands Discussed keywords: Zweiphasenstrmung Format: ePub/PDF Author(s): Barsky, Eugene

DOWNLOAD HERE

Similar manuals: