

Table of Contents

Preface

Kinetic Simulations of Diffusion-Controlled Phase Transformations in Cu-Based Alloys Y. Tang, Q. Chen and A. Engström	1
Phenomenological Investigations on Diffusion Kinetics in Multicomponent Metallic Melts W.M. Chen, X. Yang and L.J. Zhang	23
Molecular Dynamics Simulations of Atoms Diffusion in Solid Y.L. Zhou, X.M. Tao, Q. Hou and Y.F. Ouyang	51
Reviews on Modeling of Diffusion-Induced Mass Transportation in Functionally Graded Cemented Carbides K.M. Cheng, J.X. Zhou, H.X. Xu, L.J. Zhang and Y. Du	65
The Diffusion and Solid-Liquid Phase Transformation in Directional Solidification of Alloy: A Quantitative Phase Field Characterization and Real-Time Observation Y. Chen, N.M. Xiao, D.Z. Li, T.Z. Gong and H. Nguyen-Thi	97
Tilted Dendritic Growth Dynamics and Dendrite to Degenerate Seaweed Transition in Directional Solidification: Insights from Phase-Field Simulations H. Xing, X.L. Dong, J.Y. Wang and K.X. Jin	128
Ginzburg-Landau Modeling for Martensitic Transformation Coupled with Composition Redistribution G.L. Xu and Y.W. Cui	154