Preface

A Calorimetric Evaluation of the Role of Impurities in the Nucleation of Secondary Phases in 1xxx Al Alloys

Grain Refinement in Undercooled Metals

Subcritical Bifurcation From Planar to Cellular Interface in Al-0.5 wt.% Cu Directionally Solidified

Transitory Metastable Phases in Refractory Metals-Based Systems Solidified by Drop-Tube Processing: A First-Principles Approach

Melting vs. Solidification of a Pure Metal Analysed by DSC

Mechanisms of Layer Structure Formation in Peritectic Alloys

Microstructure of Ni[subscript 2]B Laser-Induced Surface-Alloyed [alpha]-Fe Interface Morphological Stability of Unidirectionally Solidified RE123 Superconductor

Effects of Finite Rate Phase Transformation Kinetics on the Steady-State Solidification Front Propagation Speed in Undercooled Pure Liquids

Superdendrites in Directional Solidification of Polymer-Solvent Mixtures

Eutectic Growth in Unidirectionally Solidified Fe-Cr-Ni Alloy

The Solidification Microstructure of Al-Cu-Si Alloys Metal-Matrix Composites

Growth of Single-Crystal YIG Fibers by the Laser Heated Pedestal Growth Method

Formation of a Metastable bcc Solid Solution and Decomposition to a C15 Laves Phase in Melt-Spun CrNb[subscript 10]Ti[subscript 10]

Derivation of the Kinetics of Phase Transformations With Nucleation and Growth Mechanism

Time-Dependent Nucleation in Partitioning Systems

Nucleation Modes in Sharp Concentration Gradients

Particle Nucleation in Dissipative Systems

Phase Separation: From the Initial Nucleation Stage to the Final Ostwald Ripening Regime

Domain-Spatial Correlation Function of Spherulitic Domain Evolution in Polymer Films

Time-Dependent Nucleation in a Bulk Metallic Glass-Forming Alloy

Correlation Functions for Nanostructures Obtained by Nucleation and Growth Kinetics

Kinetic Lattice Monte Carlo Simulations of Diffusion and Decomposition Kinetics in Fe-Cu Alloys: Embedded-Atom and Nearest-Neighbor Potentials

A Possible Mechanism for Atomic Transport in Amorphous Metals

Computer Simulations of the Chessboardlike Microstructure Formation in Decomposing Alloys

Evolution of [gamma][superscript 1] Precipitation Kinetics and Morphology in a Ni-13.36 at.% Al Alloy Aged Under Compression

Approximations for Vibrational Thermodynamics of Disordered Alloys: Effective Supercells and the Quasiharmonic Method

Energetics of Stable and Metastable Low-Temperature Iron Oxides and Oxyhydroxides

Vacancy Properties in 5d BCC Transition Metals: Ab Initio Study at Finite Electron Temperature
Evolution of $\gamma$ Precipitate in IN-713C for Long Aging Treatments

Computer Investigations on Phase Decomposition in Real Alloy Systems Based on a Discrete-Type Phase Field Method

Competition Between SRO and LRO in CuAu$_3$

Refinement of Size Distributions for Primary Crystallizations

Coarsening of B2 Ordered Domains by Monte Carlo Simulations

The L1$_2$ to DO$_{19}$ Phase Transformation in the Intermetallic Compound Fe$_3$Ge

AC Field-Induced Polarization Disordering in the Ferroelectric Phase of Modified PZT Ceramics

Effects of Hafnium, Heat Treatment, and Cycling Under Applied Stress on the Transformations of Cold Worked NiTi-Based Shape-Memory Alloys

Shape Evolution and Splitting of a Single Coherent Particle

Effect of Phase Transformations on Hardness of Semiconductors

Three-Dimensional Simulations of Phase Separation in Model Binary Alloy Systems with Elasticity

Stress-Driven Collective Nucleation of Dislocation Loops

Reentrance and Multistriped Phases in the Blume-Emery-Griffths Model With Blased Diffusion

Production and Study of Ca/Sn(II) Metastable Fluoride Ion Conductors

Mobility of Ag Atoms in the Binary System Ag$_2$Se-Ag$_2$S: A Molecular-Dynamics Study

Orientational Order Phase Transition in Solid C$_{60}$

Diffusion Via Native Defects, and the Appropriate Choice of Independent Thermodynamic Variables in Both Quasi-Equilibrium and Nonequilibrium Experimental Designs

Kinetics of Ordering in Cu$_3$Au

Electric-Field Effects on Reactions Between Oxides

Nucleation and Growth of Precipitates in Transformations Driven by Diffusion

Crystallography of Hydride Formation in Zr-Nb Alloys

Ordered Omega Derivatives in (Zr$_3$Al)-Nb Alloys

Precipitation Kinetics in an Air-Cooled Aluminum Alloy: A Comparison of Scanning and Isothermal Calorimetry Measurement Methods

Effects of Aging and Thermal Cycling Treatments on the Damping Capacity of Cu-Mn Alloys

Underpotential-Overpotential Phase Transformation Phenomena in Copper Deposition Processes on Glassy Carbon

Iron Precipitation and Dissolution in Float-Zone Silicon

Characterization of Composite Ceramic High Level Waste Forms

Strained Ion Tracks in Amorphous Solids: Origin of Plastic Deformation

Disordering in the Ni-Al System Under Low-Dose Ion Irradiation: A Computer Simulation Study

Phase Formation in Zr/Fe Multilayers During Kr Ion Irradiation

Role of Interstitial and Interstitial-Impurity Interaction on Irradiation-Induced Segregation in Austenitic Steels
Onionlike Nanoscale Structures and Fullerene-Type Cages Formed by Electron Irradiation of Turbostratic B\textsubscript{x}C\textsubscript{1-x} (x\textless0.2)

From Semiconductor to Metal in a Flash: Observing Ultrafast Laser-Induced Phase Transformations

Phase Transitions During Ion-Beam Irradiation of the Perovskite-Structure Oxides

Phase Transformation and Ion-Beam-Induced Crystallization in SiC Layers Formed by MEVVA Implantation of Carbon Into Silicon

Radiation Damage of a Glass-Bonded Zeolite Waste Form Using Ion Irradiation

Response of Zircon to Electron and Ne\textsuperscript{+} Irradiation

Investigation of Phase Formation During Cold Rolling of Elemental Zr-Al-Ni-Cu Foils With Bulk Glass-Forming Composition

Amorphization of Zr-Al Under Mechanical Alloying at Different Temperatures: A Reentrant Melting Phenomenon

Nonequilibrium Formation of Silicon Nitride During Both Ball Milling and Ion Bombardment

Changes in Mass Density and Sound Velocity of Amorphous Pd\textsubscript{80}Si\textsubscript{20} by Low-Temperature Ion Irradiation

Diffusion-Governed-Asymmetric Growth of Amorphous Layer Under Solid-State Reaction in Ni-Zr Multilayers

Crystallization of Amorphous Ribbon in NiTi-Cu Shape-Memory Alloy

Recrystallization of Si-, AS-, and BF\textsubscript{2}-Implanted, Bonded SOI

Amorphous to Crystalline Phase Transformation in Metglas Studied by Mossbauer Spectroscopy

Surface-Energy-Driven Crystallization of Amorphous Pd\textsubscript{81}Si\textsubscript{19}

Densification and Crystallization Kinetics of Cordierite Glass-Ceramic Coatings on Rigid Substrates

Influence of Mo on the Epitaxial Crystallization of Silicon

Magnetic Softening and Hardening in Metglas 2605SC at the Onset of Nanocrystallization

Temperature Dependence and Annealing Effects of Absorption Edges for Selenium Quantum Dots Formed by Ion Implantation in Silica Glass

Initial Phase Formation During Interdiffusion

Atomic-Scale Study of Precipitate/Matrix Interfaces in a Metallic Alloy

Interface Diffusion in Polysynthetically-Twinned TiAl

Metastable Phase Formation and Microstructural Evolution During Self-Propagating Reactions in Al/Ni and Al/Monel Multilayers

In Situ TEM Phase Formation in Cold-Rolled Aluminum-Nickel Multilayers

Structural Stability Diagrams for Thin-Film Multilayers

Interfacial Reaction in Aluminum/Carbon Multilayer Thin Films

In Situ UHV TEM Investigations of the Initial Oxidation Stage of Copper Thin Films

Modeling Self-Propagating Exothermic Reactions in Multilayer Systems

The Selective Synthesis of Molybdenum Silicides From Modulated Elemental Reactants

Formation of Metallic Systems Far From Equilibrium by Pulsed Laser Deposition

The Formation of Cu\textsubscript{3}Si From Cu/a-Si Multilayers