ISBN(softcover): 978-3-03785-390-0 ISBN(eBook): 978-3-03813-675-0

Table of Contents

Preface and Committees

C.S. Smith Lecture

Grain Coarsening – Insights from Curvature Modeling Cyril Stanley Smith Lecture
R.D. Doherty 1

Plenary Speakers

Microstructure Evolution during Recrystallization in Dual-Phase Steels
N. Peranio, F. Roters and D. Raabe 13

Measuring and Modelling the Microstructures of Two-Phase Aluminium Alloys after Deformation
J.F. Humphreys, P.S. Bate, A. Gholinia and I. Brough 23

Texture Change during Grain Growth in Non-Oriented Electrical Steel
Y. Arita, L. Chan, S.D. Sintay and A.D. Rollett 33

3D-EBSD Studies of Deformation, Recrystallization and Phase Transformations
M. Ferry, W.Q. Xu, M.Z. Quadir, N.A. Zinnia, K.J. Laws, N. Mateescu, L. Robin, L. Bassman, J.M. Cairney, J.F. Humphreys, A. Albou and J.H. Driver 41

Microstructure and Texture Evolution in Metals and Alloys during Intense Plastic Deformation
A.P. Zhilyaev, T.R. McNelley and O. Ruano 51

Roughening Transition of Interfaces and its Effect on Grain Growth in Metals and Ceramics
D.Y. Yoon 61

Quantitative Analysis of EBSD Data in Rocks and other Crystalline Materials: Investigation of Strain Induced Recrystallisation and Growth of New Phases
J. Wheeler, E. Mariani, S. Piazolo, D.J. Prior, P.J. Trimby, M.R. Drury, D. McNamara and M.A. Pearce 62

Monday

Origin of Goss Texture during Secondary Recrystallisation in Silicon-Steel
W.B. Hutchinson 73

Modeling the Flow Curve of Hot Deformed Austenite
J.J. Jonas, X. Quelennec and L. Jiang 81

Texture Control in Steel and Aluminium Alloys by Rolling and Recrystallization in Non-Conventional Sheet Manufacturing
L.A.I. Kestens, J.J. Sidor, R.H. Petrov and T. Nguyen Minh 89

Nucleation of Recrystallization in Mg Alloys during and after Hot Working
M.R. Barnett and A.G. Beer 96

Thermo-Mechanical Processing in a Synchrotron Beam
K.D. Liss 102

Grain Growth Control in Grain Boundary Engineered Microstructures
V. Randle and M. Coleman 103

Stored Energy of Goss Grains in Fe-3%Si Steel after Cold Rolling
H.K. Park, S.J. Kim, H.N. Han, C.H. Han and N.M. Hwang 109

Characteristics of Dynamic Recrystallization during Hot Deformation for High Nitrogen Stainless Steels
H.W. Luo, X.D. Fang, R.Z. Wang and Z.Y. Diao 115

Mechanism of Secondary Recrystallization in Grain-Oriented Si Steel
Y. Ushigami and S. Nakamura 122

Directed Growth of Ferrite in Austenite and Kurdjumov-Sachs Orientation Relationship
D.N. Lee and H.N. Han 128

Origin of the {h 1 1 }<1/h,1,2> Fiber in Single Phase Ferrite Steels
P. Gobernado, R.H. Petrov, J. Moerman, C. Barbatti and L.A.I. Kestens 134

Dynamic Recrystallisation during Isothermal Hot Deformation in a Titanium Modified Austenitic Stainless Steel
S. Mandal, A.K. Bhaduri, B. Raj and V.S. Sarma 140

Monte-Carlo Simulation of Goss Abnormal Grain Growth in Fe-3%Si Steel by Sub-Boundary Enhanced Solid-State Wetting
K.J. Ko, A.D. Rollett and N.M. Hwang 146

Dynamic Recrystallization in Similar 5182 Al/Al and Dissimilar Al/Fe Friction Stir Spot Welds
A.L. Etter, S. Bozzi and T. Baudin 152

The Effect of Cold Rolling Reduction on Shear Band and Texture Formation in Fe-3%Si Alloy
K. Murakami, N. Morishige and K. Ushioda 158

An Investigation of the Dynamic Recrystallisation Behaviour of Magnesium AZ31 Alloy at 450°C Using Plane Strain Compression Testing as a Tool
B.P. Wynne, R. Bhattacharya, B. Davis and W.M. Rainforth 164

Texture and Microstructure Evolution during Cold Rolling of Cu-Fe Laminates Prepared by Accumulative Roll Bonding
S. Suwas, K.S. Suresh and A.D. Rollett 170

New Recrystallisation Behaviour Seen in Magnesium Alloy Elektron 675
D. Randman, J. Corteen, W.M. Rainforth, B.P. Wynne and B. Davis 171

Evolution of Textures and Microstructures in Low-Reduction Rolled and Annealed Low-Carbon Steels
K.H. Oh, Y.M. Koo and D.N. Lee 173

Survey of Grain Boundary Energies in Four Elemental Metals
D.L. Olmsted, E.A. Holm and S.M. Foiles 179

Substructure and Texture Characteristics of the Deformed Matrix and Dynamically Recrystallized Grains in a Ni-30%Fe Austenitic Alloy
P. Cizek, H. Beladi and P.D. Hodgson 180

Understanding Grain Boundary Junctions: Effect of the Grain Size on Microstructure Evolution
L.A. Barrales Mora, L.S. Shvindlerman and G. Gottstein 186

Influence of Grain Boundary Mobility on Microstructure Evolution during Recrystallisation
M. Winning and D. Raabe 191

Simulation of Grain Growth under the Effect of Stress
F. Uyar, S. Wilson, M. Winning and A.D. Rollett 197

Tuesday

EBSD-Based Techniques for Characterization of Microstructural Restoration Processes during Annealing of Metals Deformed to Large Plastic Strains
A. Godfrey, O.V. Mishin and T.B. Yu 203

Advances in Grain Growth Theory
P.R. Rios, M.E. Glicksman and D. Lewis 211

Loss of High Angle Boundary Area during Annealing a Cryo-SPD Processed Al-Alloy with a Nano-Scale Lamellar Grain Structure
Y. Huang, G.H. Zahid and P.B. Prangnell 219

Stress Induced Grain Boundary Motion in Al Bicrystals
D.A. Molodov, T. Gorkaya and G. Gottstein 227

A Different View on Dynamic Recrystallization
G. Gottstein 235

Thermodynamic and Kinetic Properties of Grain Boundary Junctions
L.S. Shvindlerman and G. Gottstein 243

The Role of Deformation Microstructure in Recovery and Recrystallization of Heavily Strained Metals
N. Hansen 251

New Insights into the Dynamic and Metadynamic Recrystallization of Austenite
P.D. Hodgson, P. Cizek and H. Beladi 259

Recrystallization in Severely Deformed Aluminum
J.J. Sidor, R.H. Petrov and L.A.I. Kestens 267

Ultrafine Grain Evolution in Austenitic Stainless Steel during Large Strain Deformation and Subsequent Annealing
A. Belyakov, K. Tsuzaki and R. Kaibyshev 273

Predictive Theory for the Grain Boundary Character Distribution
K. Barmak, E. Eggeling, M. Emelianenko, Y. Epshteyn, D. Kinderlehrer, R. Sharp and S. Ta'asan 279

Dynamic Recrystallization in Al-Li Based Alloy during Equal Channel Angular Extrusion
S. Giribaskar, Gouthama and R. Prasad 286

Austenite Grain Growth Kinetics during Continuous Heating of a Microalloyed X-80 Linepipe Steel
K. Banerjee, M. Perez and M. Militzer 292

The Influence of Strain on Annealing Behaviour of Heavily Rolled Aluminium AA1050
O.V. Mishin, D.J. Jensen and N. Hansen 297

Strain Induced Inward Grain Growth during Recrystallisation in Steel Sheets with BCC Crystal Structure
J. Gautam, R.H. Petrov, E. Leunis and L.A.I. Kestens 303

Recrystallization Processes in a Ni-20%Cr Alloy Subjected to High-Pressure Torsion
N. Dudova, A. Belyakov and R. Kaibyshev 309

Tales of the Abnormal: Nanocrystalline Grain Growth at Low Temperatures
H. Paul, J.M. Dake and C.E. Krill III 315

The Effect of Temperature on Microstructure Evolution in a 7055 Aluminum Alloy Subjected to ECAP
I. Nikulin and R. Kaibyshev 317

Thermodynamic Stabilization of Grain Size in Nanocrystalline Metals
C.C. Koch, R.O. Scattergood, B.K. VanLeeuwen and K.A. Darling 323

Boundary Migration during Recrystallization of Heavily Deformed Pure Nickel
Y.B. Zhang, D.J. Jensen and A. Godfrey 329

Self-Limited to Parabolic Grain Growth Kinetics in Metal Oxide Thin Films
J.L.M. Rupp, B. Scherrer, J. Martynczuk and L.J. Gauckler 333

Influence of Annealing Process on Recrystallisation Behaviour of a Heavily Cold Rolled AISI 304L Stainless Steel on Ultrafine Grain Formation
B. Ravi Kumar, J.K. Sahu and S.K. Das 334

Grain Size Control in the Weld Pool and Heat Affected Zone Using Holograms
R.L. Higginson, M. Blackmur, M. Gibson and J. Tyrer 340

Recrystallization in Ultra-Fine Grain Structures of AA3104 Alloy Processed by ECAP and HPT
H. Paul, T. Baudin, K. Kudłacz and A. Morawiec 346

Direct Observations of Cube Nucleation from Intergranular Cube Segments in Cold Rolled Al-Mn
A. Albou, S. Raveendra, P. Karajagikar, I. Samajdar, J.H. Driver and C. Maurice 354

Warm Forming of FCC Poly Crystals: The Effect of Grain Size under Different Forming Conditions on the Softening Behavior
C. Rehrl, S. Kleber and R. Pippan 360

Recrystallized Grain Size in Single Phase Materials
S.Y. Wang, A.D. Rollett and E.A. Holm 361

Stored Energy and Annealing Behavior of Heavily Deformed Aluminium
N. Kamikawa, X.X. Huang, Y. Kondo, T. Furuhara and N. Hansen 367

Recrystallization and Grain Growth in Ultra Fine Grained Materials Produced by High Pressure Torsion
A. Khorashadizadeh, M. Winning, S. Zaefferer and D. Raabe 373

A Model for Recovery Kinetics of Aluminum after Large Strain
T.B. Yu and N. Hansen 374

The Formation of Fine-Grained Structure in S304H-Type Austenitic Stainless Steel during Hot-To-Warm Working
M. Tikhonova, V. Dudko, A. Belyakov and R. Kaibyshev 380

Wednesday

Thermal Behavior of Nickel Deformed to Ultra-High Strain by High Pressure Torsion
H.W. Zhang, X.X. Huang, R. Pippan and N. Hansen 387

New 3DXRD Results on Recrystallization and Grain Growth
D.J. Jensen, S.S. West, S.O. Poulsen and S. Schmidt 393

Simulation of Recrystallization and Recrystallization Textures in Aluminium Alloys
O. Engler 399

Laser-Ultrasonic Austenite Grain Size Measurements in Low-Carbon Steels
M. Militzer, M. Maalekian and A. Moreau 407

Grain Growth Stagnation Caused by the Grain Boundary Roughening Transition
E.A. Holm and S.M. Foiles 415

A Hybrid Modelling Approach Applied to the Evolution of Microstructure during Plane Strain Deformation
S. Das, M.F. Abbod, Q. Zhu, E.J. Palmiere, I.C. Howard, D.A. Linkens and C.M. Sellars 416

Derivation of Statistical Model of Grain Growth Based on 3-D Von Neumann Equation
G.C. Abbruzzese 427

Simulation of Line Annealing of Type 430 Ferritic Stainless Steel
A.P. Kisko, P.P. Suikkanen, C.I. Garcia, K. Cho, M. Hua, L.P. Karjalainen and A.J. DeArdo 437

***In Situ* Observation of Recovery and Grain Growth in High Purity Aluminum**
C.M. Hefferan, S.F. Li, J. Lind, U. Lienert, A.D. Rollett and R.M. Suter 447

Modeling Recrystallization in Al Alloys: Investigation of Nucleation at Cube Bands
O. Sukhopar and G. Gottstein 455

The Application of *In Situ* 3D X-Ray Diffraction in Annealing Experiments: First Interpretation of Substructure Development in Deformed NaCl
V. Borthwick, S. Schmidt, S. Piazolo, C. Gundlach, A. Griera, P.D. Bons and M.W. Jessell 461

***In Situ* Measurements of Magnetically Driven Grain Boundary Migration in Zn Bicrystals**
C. Günster, D.A. Molodov and G. Gottstein 467

Grain Growth and the Puzzle of its Stagnation in Thin Films a Detailed Comparison of Experiments and Simulations
K. Barmak, E. Eggeling, R. Sharp, S. Roberts, T. Shyu, T. Sun, B. Yao, S. Ta'asan, D. Kinderlehrer, A.D. Rollett and K. Coffey 473

Combined Physical Modeling and Monte Carlo Simulation of Recrystallization of Hot Deformed AA7020 Aluminum Alloy
A.R. Eivani, J. Zhou and J. Duczczyk 480

EBSD Coupled to SEM *In Situ* Annealing as a Tool to Identify Recrystallization Mechanisms - Application to Zr and Ta Alloys
N. Bozzolo, S. Jacomet, M. Houillon, B. Gaudout and R.E. Logé 486

Modelling Discontinuous Dynamic Recrystallization Using a Physically-Based Model for Nucleation
D.G. Cram, H.S. Zurob, Y.J.M. Bréchet and C.R. Hutchinson 492

A 3D FIB Investigation of Dynamic Recrystallization in a Cu-Sn Bronze
A. Gholinia, I. Brough, J.F. Humphreys and P.S. Bate 498

Substructure Dynamics in Crystalline Materials: New Insight from *In Situ* Experiments, Detailed EBSD Analysis of Experimental and Natural Samples and Numerical Modelling
S. Piazolo, V. Borthwick, A. Griera, M. Montagnat, M.W. Jessell, R.A. Lebensohn and L. Evans 502

Deformation and Recrystallization Texture Evolution in Nanocrystalline Nickel
R. Madhavan, N.P. Gurao and S. Suwas 508

Box-Scan: A Novel 3DXRD Method for Studies of Recrystallization and Grain Growth
A. Lyckegaard, H.F. Poulsen, W. Ludwig, R.W. Fonda and E.M. Lauridsen 518

Development of Cube Texture in Pure Ni Following Ultrahigh Straining by Accumulative Roll Bonding and Annealing
P.P. Bhattacharjee and N. Tsuji 521

Microstructure, Texture and Recrystallisation Mechanisms of an Al-20%Sn Deformation Processed Metal-Metal Composite
R. Schouwenaars, H.A. Duran, V.H. Jacobo and A. Ortiz 522

Microstructure Instability during Particle and Solute Inhibited Grain Growth
M. Buccioni and G.C. Abbruzzese 528

Microstructural Modelling Applied to the Design and Control of the Steel Plate Rolling Process
R. Doell, J. Lee, A. Harvey and M. Steeper 529

Abnormal Grain Growth Approached by Sub-Boundary Enhanced Solid-State Wetting
N.M. Hwang 542

Modelling the Recrystallization Behaviour during Industrial Processing of Aluminium Alloys
K. Marthinsen, J. Friis, B. Holmedal, I. Skauvik and T. Furu 543

Synthesizing Annealing Twins in Three-Dimensional Voxel-Based Microstructures
L.H. Chan, G.S. Rohrer and A.D. Rollett 549

Recrystallization during Annealing of a Cold Rolled Lean Duplex Stainless Steel
C. Herrera, D. Ponge and D. Raabe 550

Two-Dimensional Grain Growth Simulation by Local Curvature Multi-Vertex Model
T. Tamaki, K. Murakami, H. Homma and K. Ushioda 551

Assessment of the Stored Energy Evolution during Batch Annealing Process of Cold Rolled HSLA Steels
C. Fang, C.I. Garcia, S.H. Choi and A.J. DeArdo 557

Conditions for the Occurrence of Abnormal Grain Growth Studied by a 3 D Vertex Dynamics Model
M. Syha and D. Weygand 563

Recrystallization Kinetics and Texture Evolution during Annealing of Cold Rolled Fe-Mn-C Alloy
Y.P. Lü, D.A. Molodov and G. Gottstein 568

Effect of a Finite Boundary Junction Mobility on the Growth Rate of Two and Three Dimensional Grains
L.A. Barrales Mora 574

Thursday

Recrystallization and Mechanical Behavior of High Mn and Low C Cold Rolled and Annealed Steel with TWIP Effect
D.B. Santos, B.M. Gonzalez and E.V. Pereloma 579

Influence of the Deformation Path on the Annealing Textures and Microstructures of Various Cubic and Hexagonal Metals
B. Bacroix, R. Brenner, S. Wroński, J.Y. Kang and E. Rauch 585

Mechanisms of Dynamic Recrystallization in Coarse Columnar-Grained Cu-Sn-P Alloy
H. Miura, M. Watanabe, T. Shirai and A. Ishibashi 586

Modelling of Recrystallization Nucleation at Hard Inclusions
W. Mitter and C. Sommitsch 593

Molecular Dynamics Simulation of Grain Growth in Nanocrystalline Ni
S.M. Foiles 599

Preparation and Thermal Stability of a Mechanically Alloyed Oxide Dispersion Strengthened Ferritic Steels
Y.R. Wen, Y. Liu, D.H. Liu and B. Tang 605

Grain Growth during Annealing: Experiments and Modelling
M. Candic, B.H. Tian and C. Sommitsch 611

The Influence of Oxide Inclusion on Austenite Grain Size and Heat Affected Zone Toughness for Low Carbon Steels
W. Shu, X.M. Wang, C.J. Shang and X.L. He 617

Potts Model Simulation of Grain Boundary Junction Limited Grain Growth
D. Zöllner and P. Streitenberger 623

Annealing Behavior of Ferritic-Martensitic ODS-Eurofer Steel: Effect of Y_2O_3 Particles on Recrystallization
H.R.Z. Sandim, R.A. Renzetti, A.J. de Oliveira Zimmermann, A.F. Padilha and A. Möslang 629

Towards a Phase Field Model of the Microstructural Evolution of Duplex Steel with Experimental Verification
S.O. Poulsen, P.W. Voorhees and E.M. Lauridsen 635

A Step Forward in the Understanding of the Strain Reversal Effect on the Recrystallization Kinetics after Hot Working
D. Jorge-Badiola, J.L. Lanzagorta and I. Gutiérrez 643

Recrystallisation Behaviour of an Fe-Mn-C-Si-Al TWIP
L. Bracke and N. Cabañas-Poy 649

On the Effect of Strain Reversal on Static Recrystallisation and Strain-Induced Precipitation Process Kinetics in Microalloyed Steels
K. Muszka, L. Sun, B.P. Wynne, E.J. Palmiere and W.M. Rainforth 655

Grain Refinement of a Cold Rolled TRIP Assisted Steel after Ultra Short Annealing
R.H. Petrov, J.J. Sidor, W. Kaluba and L.A.I. Kestens 661

The Effect of Strain Path Reversal during Austenite Deformation on Phase Transformation in a Microalloyed Steel Subjected to Accelerated Cooling
L. Sun, K. Muszka, B.P. Wynne and E.J. Palmiere 667

The Solute Drag Effect during Recrystallisation and Grain Growth in Austenite
W. Kranendonk 673

Recrystallisation Behaviour of Low Carbon Steel with and without Addition of Chromium
A. Gazder, V. Bata, S.S. Hazra and E.V. Pereloma 679

Recrystallization and Roping in a 6000 Series Al Alloy
T.A. Bennett, R.H. Petrov and L.A.I. Kestens 685

Effect of Strain on Recrystallisation during Hot Deformation of Nb-Containing Microalloyed Steel
A. Kundu, C.L. Davis and M. Strangwood 690

Friday

Role of Inclination Dependent Anisotropy on Boundary Populations during Two-Dimensional Grain Growth
D. Kar, S.D. Sintay, G.S. Rohrer and A.D. Rollett 697

Controlling Grain Size in Oxide Ceramics for Optimization of Strength and Wear Resistance
W.M. Rainforth, P. Zeng and L. Ma 703

Austenite Grain Refinement in Direct Charging Based Thermomechanical Processes
J.M. Rodriguez-Ibabe and B. López 711

Nonlinear Migration of Faceted Boundaries and Nonstationary Grain Growth in Ceramics
J.G. Fisher and S.J.L. Kang 719

Sub-Boundary Mobilities during Recovery of Binary Al-Mn Alloys
F. Barou, C. Maurice, J.M. Feppon and J.H. Driver 725

The Weighted Burgers Vector: A Quantity for Constraining Dislocation Densities and Types Using Electron Backscatter Diffraction on 2D Sections through Crystalline Materials
J. Wheeler, E. Mariani, S. Piazolo, D.J. Prior, P.J. Trimby and M.R. Drury 732

Mean Field and Finite Element Modeling of Static and Dynamic Recrystallization
R.E. Logé, P. Bernard, K. Huang, S. Bag and M. Bernacki 737

Fabrication of Nanocrystalline Dense Silicon Nitride Ceramics
H.D. Kim and S.H. Hong 738

Modelling the Static Recrystallisation Texture of FCC Metals Using a Phase Field Method
Y.J. Lan and C. Pinna 739

Zener Pinning Pressure in Tempered Martensite Lath Structure
D. Kolesnikov, A. Belyakov, A. Kipelova, V. Dudko, R. Kaibyshev and D.A. Molodov 745

A Rationale for SRX Regression Model of Hot-Deformed Austenite Using an Orthogonal Taguchi L8 Matrix Steels
M.C. Somani and L.P. Karjalainen 751

Room Temperature Recovery in Rolled Polycrystalline Copper after many Years
J. Tarasiuk, B. Bacroix, K. Wierzbanowski, S. Wroński and P. Gerber 758

Modelling of Particle Pinning in Dual Scale Using Phase Field Method
S. Shahandeh and M. Militzer 764

Study of Recovery and Recrystallisation in Folded BCC, FCC and HCP Sheet Samples
H.S. Ubhi and H. Jiang 770

Phase Field Model of Grain Growth Using Quaternions
S. Biswas, I. Samajdar, A. Haldar and A. Sain 776

Determining the No-Recrystallization Conditions for Industrial Hot Strip Rolling of Steels Using Laboratory Simulations
E.I. Poliak 782

Microstructure Evolution in Sintering of Alumina-Zirconia Ceramics Simulated by a Modified Phase Field Method
C.Y. Wei and S.Y. Li 788

Studies on Softening Kinetics of Niobium Microalloyed Steel Using Stress Relaxation Technique
C.L. Miao, C.J. Shang, G.D. Zhang, G.H. Zhu, H.S. Zurob and S.V. Subramanian 794

3D Phase Field Simulation of Austenite Grain Growth in Microalloyed Linepipe Steel
M. Toloui and M. Militzer 800

Grain Size Distributions and Evolution Equations in Nanocrystalline Grain Growth
P. Streitenberger and D. Zöllner 806

Poster Session 1

Microstructural Evolution in 9%Cr Heat Resistant Steels under Creep Conditions
R. Kaibyshev 813

***In Situ* Observations and Measurements of Mechanically Induced Grain Boundary Migration in a Scanning Electron Microscope**
T. Gorkaya, T. Burlet, D.A. Molodov and G. Gottstein 819

EBSD Analysis of Deformed and Partially Recrystallized Microstructures in ECAE-Processed Copper
O.V. Mishin, J.R. Bowen and A. Godfrey 825

Effect of Partially Recrystallized Structure Produced by Intense Plastic Deformation on Fatigue Behavior of an Al6%Mg0.3%Sc Alloy
E. Avtokratova, O. Sitdikov and R. Kaibyshev 831

Goss Texture Formation by Strain Induced Boundary Migration in Semi-Processed Nonoriented Electrical Steels
J.T. Park and K.S. Han 837

Grain Boundary Triple Line Tension in Copper
B.B. Zhao, L.S. Shvindlerman and G. Gottstein 843

Mesoscopic Simulations of Recrystallization and Grain Growth in a Fe-0.374%C-21.64%Mn Alloy
L.A. Barrales-Mora, Y.P. Lü, D.A. Molodov and G. Gottstein 849

Magnetically Controlled Grain Growth in Cold Rolled Zinc
C. Günster, D.A. Molodov and G. Gottstein 853

Globularization of Two-Phase Titanium Alloy during Deformation at 600 and 800°C
S.V. Zherebtsov, M.A. Murzinova and G.A. Salishchev 854

Microstructure Evolution during Quenching and Tempering of Martensite in a Medium C Steel
A. di Schino, L. Alleva and M. Guagnelli 860

Spatially Inhomogeneous Recrystallization in Ferritic Stainless Steels
G. Lefebvre, S. Shahandeh, C.W. Sinclair, M. Militzer, J.D. Mithieux and J. Laigo 866

Effect of Matrix Size and Neighbour Sites on Microstructure Evolution in 3D Monte Carlo Grain Growth Simulation
A. Ayad and N. Rouag 872

Growth History of Individual Grains in Polycrystals: Theoretical Model and Simulation Studies
D. Zöllner and P. Streitenberger 877

Microstructure Numerical Modelling Change during the Round Bars Rolling
S. Mróz, P. Szota, A. Stefanik and H. Dyja 883

Grain Refinement in Austenitic Stainless Steel during Warm Screw Rolling
A. Mogucheva, N. Lopatin, A. Belyakov and R. Kaibyshev 889

Structural Changes in a 9%Cr Creep Resistant Steel during Creep Test
V. Dudko, A. Belyakov, V. Skorobogatykh, I. Schenkova and R. Kaibyshev 895

Poster Session 2

Real-Space Analysis of Grain Boundary Fluctuations in Two Dimensional Colloidal Crystals
T.O.E. Skinner, D.G.A.L. Aarts and R.P.A. Dullens 901

Dynamic Recrystallization of Ferrite in a Low Carbon Steel with the (α+θ) Duplex Microstructures
L.F. Li, W.Y. Yang and Z.Q. Sun 902

The Effect of High Temperature Grain Refinement on the Isothermal Ferrite Grain Growth Kinetics in Steel S460
J.S. Hinton, E.J. Palmiere and W.M. Rainforth 907

Microstructure Evolution during Annealing Treatment of Austenitic Stainless Steels
C. Herrera, A.F. Padilha and R.L. Plaut 913

Role of Σ9 Boundaries in Abnormal Grain Growth of Goss Grains in Fe-3%Si Steel Approached by Solid-State Wetting
C.S. Park, H.K. Park, S.C. Park, C.H. Han and N.M. Hwang 914

Texture Formation by the Compression Deformation of AA5182 Aluminum Alloy at High Temperatures
H.M. Jeong, K. Okayasu and H. Fukutomi 918

Effect of Initial Grain Sizes on Strain Induced Boundary Migration
Y. Natori, K. Murakami, S. Arai, Y. Kurosaki, H. Mogi and H. Homma 924

Mobility Driven Abnormal Grain Growth in the Presence of Particles
E. Fjeldberg, E.A. Holm, A.D. Rollett and K. Marthinsen 930

Formation of Texture in AZ80 during High Temperature Compression Deformation
J. Kim, K. Okayasu and H. Fukutomi 936

Investigation of Deformed and Recrystallized Textures in Zirconium
M. Jedrychowski, J. Tarasiuk, B. Bacroix, S. Wroński and D. Chaubet 940

Magnetically Affected Texture and Microstructure Evolution during Grain Growth in Zirconium
D.A. Molodov and N. Bozzolo 946

Annealing Phenomena in Cu/Ni Composite Electrodeposit
K.H. Kim, D.H. Kang and Y.B. Park 952

Migration of Dislocation Boundaries in a Modified P911 3%Co Heat Resistant Steel during Tempering, Ageing and Creep
A. Kipelova, R. Kaibyshev, A. Belyakov and D.A. Molodov 953

On the Recrystallization Kinetics of 3D Potts Monte Carlo Simulations
E. Fjeldberg and K. Marthinsen 959

Modelling of Recrystallization Curves of Porous Copper-Titanium Powder Materials
L. Ryabicheva and D. Usatyuk 965

Analytical Expressions for Formal Kinetics
P.R. Rios, W.L.S. Assis, T.C. Salazar and E. Villa 971

The Influence of Subgrain Size on the Bainite Refinement for Steels
X.M. Wang, C.J. Shang, S.W. Yang and X.L. He 977

Modelling Interface Diffusion Creep: Single Phase Insights and Two Phase Challenges
J. Wheeler and J.M. Ford 983

Investigations on Interaction between Recrystallization and Precipitation at Finishing Steps of Seamless Tube Rolling
R.N. Carvalho, M.A.C. Ferreira, D.B. Santos and R. Barbosa 988

The Evolution of Structure and Mechanical Properties of Fe-Mn-V-Ti-0,1C Low-Carbon Steel Subjected to Severe Plastic Deformation and Subsequent Annealing
G.G. Maier, E.G. Astafurova, E.V. Naydenkin, G.I. Raab and S.V. Dobatkin 994