

Table of Contents

Preface

Evolution of Recrystallization Textures - Classical Approaches and Recent Advances G. Gottstein	1
Structure and Formation of Polymer Single Crystal Textures S.Z.D. Cheng and C.Y. Li	25
Texturing and Grain Boundary Engineering for Materials Design and Development in the 21st Century T. Watanabe	39
From 2D to 3D Microtexture Investigations H.F. Poulsen and D. Juul Jensen	49
Tools for Polycrystal Plasticity Analyses P.R. Dawson and D.E. Boyce	67
Texture Development in Thin Films D.N. Lee	75
20 Years WIMV, History, Experience and Contemporary Developments S. Matthies	95
New Concepts to Measure, Calculate and Analyze Textures in Materials H. Weiland, J.M. Fridy and E. Llewellyn	101
On the Development of New Scalar Measures of Heterogeneity S.I. Wright, D.P. Field, R. Witt and C.A. Michaluk	107
X-Ray Combined QTA Using a CPS Applied to a Ferroelectric Ultrastructure M. Morales, D. Chateigner, L. Lutterotti and J. Ricote	113
Development of Grain-Orientation-Dependent Residual Stresses in Interstitial-Free Steel after Deformation Y.D. Wang, X.L. Wang, A.D. Stoica, Y.H. Sha, X. Zhao, L. Zuo and J.W. Richardson	119
Stereology for Recovering Grain Boundary Plane Distributions in the Crystal Frame R.J. Larsen and B.L. Adams	125
Interactive and Quantitative Texture Determination by Consecutive Inverse Pole Figures C.T. Chou, K.G. Dicks, P. Rolland, A.P. Davey and R.K. Walker	131
Texture and Microstructure Analysis with High-Energy Synchrotron Radiation H.J. Bunge, L. Wcislak, H. Klein, U. Garbe and J.R. Schneider	137
Some Remarks about the Processing of Automatic EBSD Orientation Measurements in View of Texture Determination F. Wagner, N. Bozzolo, N. Dewobroto and N. Gey	143
Non-Destructive Texture Measurement H.G. Brokmeier	149
Recrystallization and Deformation Texture Components Separating by High-Energy X-Ray Diffraction Y.D. Wang, X.L. Wang, A.D. Stoica, J. Almer, U. Lienert, D.R. Haeffner and T.R. Watkins	155
Local Texture Measurements with High-Energy Synchrotron Radiation on NiAl Deformed in Torsion W. Skrotzki, R. Tamm, B. Klöden, C.G. Oertel, L. Wcislak and E. Rybacki	161
Quantitative Texture Analysis with Hard (100 keV) Synchrotron X-Rays L. Wcislak, H. Klein, H.J. Bunge, U. Garbe and J.R. Schneider	167
Neutron Diffraction Texture Study of NdFeB As-Cast Alloys and Magnets S. Rivoirard, D. Chateigner, P. de Rango and D. Fruchart	173
Measurement of Grain-Orientation-Dependent Stress and Stored Energy Using Spallation Neutron Source Y.D. Wang, X.L. Wang, A.D. Stoica and J.W. Richardson	179
Non-Destructive Texture Analysis of a Co-Extruded Cu-Nb Tube W. Ye, H.G. Brokmeier and V. Šinger	185
Attenuation Corrections in Neutron Texture Experiment V. Luzin and H.G. Brokmeier	191

Optimization of Neutron Texture Experiment by Statistical Simulation of Pole Figures with Normal Distribution	
M.V. Borovkov and T.I. Savyolova	197
Orientation Correction Method of Distorted Samples during in situ Deformations Using a High Resolution EBSD	
J.H. Han, S.M. Baeck, K.H. Oh and Y.H. Chung	203
Orientation Maps on TEM	
J. Fundenberger, E. Bouzy, A. Morawiec and J.S. Lecomte	209
The Quantitative Analysis of Composite Materials by the RIETVELD Method with Texture Correction	
J.H. Bae, G. Heo, S.T. Oh, E.J. Shin, B.S. Seong, C.H. Lee and K.H. Oh	215
Characterisation of Orientation Noise during EBSP Investigation of Deformed Samples	
A. Godfrey, G.L. Wu and Q. Liu	221
Investigation of Online Texture Measurement in Steel Sheets Based on X-Ray Area Detector	
L. Chen, W.M. Mao, H.P. Feng and Y.N. Yu	227
Controlled Depth Penetration X-Ray Diffraction Measurement	
B. Bolle, A. Tidu, L. Jolly, C. Valot, C. Laruelle and J.J. Heizmann	233
Quantitative Surface Roughness Determination of Materials by AFM: Some Limitations	
A. Méndez-Vilas, M.J. Nuevo, M.L. González-Martín and L. Labajos-Broncano	239
On the Use of RMS Roughness for Surface Roughness Characterization	
A. Méndez-Vilas, M.J. Nuevo, M.L. González-Martín and L. Labajos-Broncano	245
Texture Development Dependence on Grain Boundary Properties	
A.D. Rollett	251
A Texture Component Crystal Plasticity Finite Element Method for Scalable Large Strain Anisotropy Simulations	
D. Raabe, K. Helming, F. Roters, Z. Zhao and J. Hirsch	257
The Relation between Texture, Twinning and Mechanical Properties in Hexagonal Aggregates	
C. Tomé, S.R. Agnew, M.A.M. Bourke, W.R. Blumenthal, D.W. Brown, G.C. Kaschner and P. Rangaswamy	263
Atomistic Model of Rapidly Moving Grain Boundaries in FCC Metals	
W.M. Mao	269
Theory of Orientation Gradients	
D. Raabe, Z. Zhao and F. Roters	275
Influence of Grain Neighbourhood on FCC Texture Simulations	
Z. Zhao, W.M. Mao and D. Raabe	281
Lattice Rotations of Individual Bulk Grains during Deformation	
G. Winther, L. Margulies, H.F. Poulsen, S. Schmidt, A.W. Larsen, E.M. Lauridsen, S.F. Nielsen and A.E. Terry	287
Prediction of Texture Development during Grain Growth in Pure Aluminum by Monte Carlo Simulation	
M. Kobayashi, Y. Takayama and H. Kato	293
Spin of a Grain in Interaction with Differently Deformed Neighbors by Compatibility Condition	
A.A. Zisman and V.V. Rybin	299
Successive Selection of Active Slip Systems by the Least Incompatibility Criterion and Corresponding Texture Simulation	
A.A. Zisman, N.Y. Zolotarevsky and N.Y. Ermakova	305
Polycrystal Deformation Model Incorporating the Shape and Spatial Coordination of Constitutive Crystals	
N.Y. Ermakova, A.A. Zisman and N.Y. Zolotarevsky	311
Learning with METIS: Pole Figures and Euler Space	
M. Büscher and G. Gottstein	317
Modeling Texture and Void Evolution in Polycrystals	
R.A. Lebensohn, C. Tomé and P.J. Maudlin	323
Influence of Selective Inactive Glide Plane on Texture Formation in Cold Rolling of Face Centered Cubic Metal	
H. Masui	329

A Model of Recrystallization Process in Motor Lamination Silicon Steel H.L. Li, J.T. Park and J.A. Szpunar	335
SELF-CON: A Self Consistent Software Package for Micromechanical Simulations J. Signorelli, S. Freschi, P.A. Turner and R.E. Bolmaro	341
Why Spin Sharing Seems to be Successful in Texture Simulations? R.E. Bolmaro, A.L. Fourty, M.A. Bertinetti, A. Roatta and J. Signorelli	347
Exploring Self-Consistent Models as a Source for Recrystallization Simulation R.E. Bolmaro, A.L. Fourty, M.A. Bertinetti, A. Roatta and J. Signorelli	353
Using Evolutionary Size Distributions to Model Recrystallization in Hot Rolled, Commercial Purity Aluminum Alloys J.P. Suni, H. Weiland and R.T. Shuey	359
Can we Relate the FCC Rolling Texture Transition to Cross Slip? T. Leffers and O.B. Pedersen	365
Finite Element Simulation of Grain Interaction and Orientation Fragmentation during Plastic Deformation of BCC Metals S.J. Park, H.N. Han, K.H. Oh, D. Raabe and J.K. Kim	371
Prediction of Deformation and Texture Evolution in the Vicinity of a Hard Particle in an FCC Crystal S.J. Park, S.H. Choi, K.H. Oh and J.A. Szpunar	377
Mathematical Insights for Rate-Dependent Slip Model in Crystal Plasticity K. Sekine and K.M. Eom	383
Finite Element Modeling of the Intragranular Reorientation and Stored Energy Induced by Deformation in an IF-Ti Steel Aggregate Submitted to Channel Die Compression P. Eriau and C. Rey	389
Modeling of Recrystallization Using Monte-Carlo Method Based on EBSD Data J. Tarasiuk, P. Gerber, B. Bacroix and K. Piękoś	395
Simulation of Ridging of Ferritic Stainless Steel Using Crystal Plasticity Finite Element Method H.J. Shin, J.K. An, S.H. Park and D.N. Lee	401
Evaluation of Local and Global Elastic Properties of Textured Polycrystals by Means of FEM V. Luzin, T. Gnäupel-Herold and H. Prask	407
Monte Carlo Simulation for Abnormal Grain Growth during Nucleation K. Okuda and A.D. Rollett	413
Creating a Model for Percolation of Grain Boundaries in Polycrystalline Materials A.J. Henrie, B.L. Adams and R.J. Larsen	419
Nucleation Spectra for Recrystallization Simulated with the Grain Interaction Model for Deformation Textures M. Crumbach, M. Goerdeler and G. Gottstein	425
Grain Subdivision and Local Texture Evolution Studied by Means of a Coupled Substructure-Texture Evolution Model M. Seefeldt and P. van Houtte	433
FEM-Aided Taylor Simulations of Radial Texture Gradient in Wire Drawing S. Li, S. He, A. Van Bael and P. van Houtte	439
Analysis and Modelling of a Variant Selection Mechanism Occurring by Phase Transformation of HSLA Steel Produced by Compact Strip Production M. Humbert, B. Gardiola, C. Esling, G. Flemming and K.E. Hensger	445
Recrystallization Textures Modelling of Steels H. Réglé, D. Grandemange, A. Miroux and B. Bacroix	451
Torsional Modelisation of the Torsion Texture of Steel Cord Y.D. Liu, A. Tidu, L. Zuo, B. Bolle and J.J. Heizmann	457
A New Formulation for the Elastic-Viscoplastic Lower Bound and Intermediate Modeling for Polycrystalline Plasticity S. Ahzi, S. M'Guil and A. Agah-Tehrani	463
Monte Carlo Technique for Simulation of Recrystallization Texture in Interstitial Free Steels S.H. Choi	469

Taylor-Type Simulation of the Rolling Texture of Pure Aluminum Taking into Account the Initial Texture	
Z.Y. Chen, X.M. Zhang, Y.X. Du, Z. Yao and C.M. Liu	475
Higher Order Twinning and Microstructure Evolution	
V. Randle	481
Spectral Integration of Microstructure and Design	
B.L. Adams, M. Lyon, B.L. Henrie, S.R. Kalidindi and H. Garmestani	487
Determination of $\Sigma 3$ Boundary Planes in Bulk Copper Samples with Different Textures	
X. Huang	493
Characterization of Cold Drawn Gold bonding Wire with EBSD	
J.H. Cho, J.S. Cho, J.T. Moon, J. Lee, Y.H. Cho, A.D. Rollett and K.H. Oh	499
Influence of Substrate Texture on the Galvannealed Coating by EBSD	
M.H. Hong, S.H. Choi and J. Chung	505
Advanced Characterization of Twins Using Automated Electron Backscatter Diffraction	
S.I. Wright, J. Bingert, T.A. Mason and R.J. Larsen	511
Microtextural Inhomogeneity during Thermomechanical Processing of Coarse-Grained Niobium	
H.R.Z. Sandim, J.F.C. Lins, A.L. Pinto and A.F. Padilha	517
Automatic Orientation Measurements in TEM for Studying Fe-Ni Recrystallization Mechanisms	
R. Penelle, T. Baudin, D.J. Dingley, M. Tiner and S.I. Wright	523
Microtexture Measurement of Copper Damascene Line with EBSD	
D.I. Kim, J.M. Paik, Y.C. Joo, K.H. Oh, H.C. Lee and K. Dicks	529
High-Resolution EBSD Analysis of Deformed Material	
P. Rolland, K.G. Dicks and C.T. Chou	535
Deformation and Annealing Behaviour of Two Ni₃Al Based Alloys	
R.K. Ray	541
Strain Rate Effects on Texture Evolution in OFE Copper	
J.W. House and P.P. Gillis	547
Thermo-Mechanical Processing of Forged Tantalum Analyzed by OIM and X-Ray Diffraction	
J.W. House, J.F. Bingert, R.J. De Angelis and J.M. O'Brien	553
Local Strain Heterogeneities after Cold Rolling of an Ultra Low Carbon Steel	
K. Verbeke and L.A.I. Kestens	559
Deformation Texture of Cold Drawn Al6063 Tube	
J.H. Cho, S.J. Park, S.H. Choi and K.H. Oh	565
In Situ Deformation Behavior of Retained Austenite in TRIP Steel	
K.K. Park, S.T. Oh, S.M. Baeck, D.I. Kim, J.H. Han, H.N. Han, S.H. Park, C.G. Lee, S.J. Kim and K.H. Oh	571
Preferred Orientation Formation in Sheets Worked by Continuous Cyclic Bending	
Y. Takayama, H. Kato, M. Kobayashi and H. Watanabe	577
A Method of Determination of Stored Energy in Single and Dual Phase Cold Rolled Materials	
A.L. Etter, M.H. Mathon, T. Baudin and R. Penelle	583
Texture and Deformation Structure Evolution during Rolling of Individual Grains of Columnar Grain Nickel	
G.L. Wu, A. Godfrey and Q. Liu	589
Analysis of Compression Textures of Aluminum and Nickel Rods	
K.K. Um, H.T. Jeong, S.B. Lee and D.N. Lee	595
Local Texture Evolution during Rolling Deformation of Single Crystals of {100}<011> Orientation	
Z.J. Li, Q. Liu and A. Godfrey	601
Texture Development in Ni-Co Alloys Rolled to Moderate Reductions	
J.V. Carstensen, R.K. Ray and T. Leffers	607
Texture Formation with Different Rolling Modes in Copper	
J. Pospiech, M. Wróbel, J.T. Bonarski and M. Blicharski	613
Microband Formation in an IF Steel during Cold Rolling at Low Strain Levels	
Q.Z. Chen and B.J. Duggan	619

Effect of Deformation Path on Torsion Texture and Stored Energy of Copper Rods J. Kuśnierz, M. Kurowski, M.H. Mathon, T. Baudin, Z. Jasieński and R. Penelle	625
Rolling and Annealing Textures of Dispersion Strengthened Copper Strips S.H. Kim and D.N. Lee	631
Effects of Shear Strain and Drawing Pass on the Texture Development in Copper Wire H. Park and D.N. Lee	637
Yield Vertices of BCC Crystals for {110}<111>, {112}<111> and {123}<111> Multiple Slip X.M. Zhang, Z.Y. Chen, J.G. Tang, J.M. Chen and Z.P. Zhou	643
Comparison of Torsion Textures to Rolling Textures K.K. Um, H.T. Jeong and D.N. Lee	649
Monte Carlo Simulation of Grain Growth in Zr Processed by ECAP H.S. Ryoo, S.H. Yu, K.H. Oh and S.K. Hwang	655
Evolution of Texture in Zr and Ti Grain-Refined by ECAP S.H. Yu, D.H. Shin, N.J. Park, M.Y. Huh and S.K. Hwang	661
Textural and Microstructural Characterization of Equal Channel Angular Pressed Nickel W. Skrotzki, R. Tamm, R. Klemm, E. Thiele, C. Holste and H. Baum	667
Texture in Equal-Channel Angular Pressed Aluminum and Nickel S.C. Vogel, I.J. Beyerlein, M.A.M. Bourke, C. Tomé, P. Rangaswamy, C. Xu and T.G. Langdon	673
Texture Evolutions of 5052 Aluminum Alloy Sheets Processed by Dissimilar Channel Angular Pressing J.H. Han, K.H. Oh, K.K. Jee, Y.H. Chung and M.C. Shin	679
Texture Analysis of Aluminum Plate Produced by ECAP S.M. Baeck, H.K. Seok, J.C. Lee, D.I. Kim, H.C. Lee and K.H. Oh	685
Heterogeneous Microstructures and Microtextures in Al Processed by ECAE E. Bouzy, J. Funderberger and T. Grosdidier	691
Calculation of Deformation Behavior and Texture Evolution during Equal Channel Angular Pressing of IF Steel Using Dislocation Based Modeling of Strain Hardening S.C. Baik, Y. Estrin, H.S. Kim, H.T. Jeong and R.J. Hellmig	697
Neutron Diffraction Study of Texture and Stored Energy in ECA Pressed Copper J. Kuśnierz, M.H. Mathon, T. Baudin, Z. Jasieński and R. Penelle	703
Study of the GBCD for the Grain Growth Areas on Pure Cu Samples Extruded by Means of ECAE G. Wang, S.D. Wu, C. Esling, L. Zuo, Z.G. Wang and G.Y. Li	709
Microtexture of Lamellar Structures in Al Heavily Deformed by Accumulative Roll-Bonding (ARB) X. Huang, N. Tsuji, N. Hansen and Y. Minamino	715
Microstructure and Texture Evolution during Annealing of an Aluminium ARB Material W.Q. Cao, Q. Liu, A. Godfrey and N. Hansen	721
Texture Properties of AA8011 Aluminum Alloy Sheet Manufactured by the Accumulative Roll Bonding Process (ARB) H.W. Kim, S.B. Kang, Z.P. Xing, N. Tsuji and Y. Minamino	727
Texture Evolution and Grain Refinement in Al Deformed to Ultra-High Strains by Accumulative Roll Bonding (ARB) C.P. Heason and P.B. Prangnell	733
Formation and Control of the Cube Texture in Fe-Ni Alloys R. Penelle, T. Baudin, A.L. Etter and D. Solas	739
Annealing Texture, Do We Understand It? J.A. Szpunar	749
Twin Nucleation at Triple Junction during Hot Deformation of Copper Polycrystal H. Miura, H. Hamaji and T. Sakai	755
Dynamic Recrystallization at Triple Junction during High-Temperature Deformation in Copper Tricrystal S. Andiarwanto, H. Miura and T. Sakai	761
Orientation Aspects of the Nucleation of Recrystallization in FCC Metals and Alloys with Low Stacking Fault Energies K. Sztwiertnia	767
Orientation Dependence of Recrystallization in Aluminum H. Lücken and D. Raabe	773

Non-Oriented Silicon Steel Recrystallization Texture Study M.A. Da Cunha and S. Da Costa Paolinelli	779
Deformation Microtexture and Recrystallized Orientations in Non-Oriented Electrical Steel Observed by High-Resolution EBSD M. Kohno, M. Muraki, M. Kawano and M. Komatsubara	785
Development of Cube Texture during Industrial Processing of High Purity Aluminum Foil Obtained with 99% Volume Fraction of Cube Component K. Kajihara, K. Tokuda, Y. Sugizaki and Y. Seki	791
An EBSD Study of Static Recrystallization of Cold-Rolled Zircaloy-4 Sheets D. Chaubet, B. Bacroix and J.L. Béchade	797
Texture Analysis of Copper Bonding Wire S.M. Baeck, K.K. Park, H. Ha, Y.J. Oh, Y.J. Park, J.T. Moon, J. Lee and K.H. Oh	803
Early Stages of the Recrystallization Texture Formation in {112}<111> - Oriented Silver Single Crystals H. Paul, Z. Jasieński, C. Maurice and A. Piątkowski	809
Study of Annealing Texture Components in High Purity Aluminums M.Y. Huh, J.K. Kim, H. Jang, K. Ito and W.Y. Jeung	815
Influence of the Primary Recrystallization Texture on Abnormal Grain Growth of Goss Grains in Grain Oriented Electrical Steels J.Y. Park and J.A. Szpunar	821
Microstructure and Texture Analysis in Twin-Roll Strip Cast Fe-36wt%Ni Alloy J.Y. Park, J.T. Choi, T. Kang, K.H. Oh and J.A. Szpunar	827
Investigation of Recrystallization Texture Evolution during Annealing of Hot Deformed AA3104 Alloy J. Savoie, H.L. Yiu, E.M. Lauridsen, L. Margulies, S.F. Nielsen, S. Schmidt, M. Ashton and R. Sebald	833
Statistical Analysis on the Development of Recrystallization Texture in IF Steel D.I. Kim, K.H. Oh and H.C. Lee	839
Formation of Recrystallization Textures after Hot Working of AA2014 and AA6063 W.H. Van Geertruyden, W.Z. Misiólek, M.C. Gonçalves, G. Szilagyi and M.M. Nowell	845
Influence of the Rolling Reduction on Static Recrystallization in Copper P. Gerber, J. Tarasiuk and B. Bacroix	851
Nucleation in Rolled BCC Metals N.H. Heo, S.B. Kim, K.H. Chai, Y.S. Choi and S.S. Cho	857
Nucleation, Surface-Energy-Induced Selective Grain Growth and Final Texture in 3% Silicon Steel N.H. Heo, S.B. Kim, S.S. Cho, Y.S. Choi, K.H. Chai, J.M. Oh and H.C. Lee	863
Formation Mechanism of Recrystallization Nuclei in Polycrystalline α-Fe T. Imamura, Y. Hayakawa and M. Kurosawa	869
Monitoring of Primary Recrystallization in Aluminum Alloy by Resonance EMAT Spectroscopy C.-. Man, X. Fan, J.G. Morris and K. Kawashima	875
Simulated Nucleation Textures of Recrystallization during Multiple Pass Hot Rolling of Aluminium Alloys M. Goerdeler, M. Crumbach and G. Gottstein	881
Orientation Distribution in Dynamically Recrystallized Nickel H. Fukutomi, M. Hasegawa and K. Okayasu	889
Recrystallization Texture of a Copper Electrodeposit with the <111> and <110> Duplex Orientation S.Y. Kang and D.N. Lee	895
Recrystallization Textures in some Hexagonal Alloys N. Bozzolo, F. Wagner, N. Dewobroto and T. Grosdidier	901
Recrystallization Textures in Coarse Grained Low Carbon and Interstitial Free Steels M.D. Nave and M.R. Barnett	907
Deformation and Annealing Textures of Drawn Aluminum Bronze Wires S.Y. Kim, C.H. Choi and D.N. Lee	913
Texture Evolution during the Annealing of Nanocrystalline Permalloy Y.B. Park, J. Park, C.S. Ha and T.H. Yim	919

Texture Evolution and Wear Properties of Nanocrystalline Ni-P Electrodeposits D.H. Jeong, U. Erb, K.T. Aust and G. Palumbo	925
Orientation Dependence of Grain Growth in a Nanocrystalline Ni Foil Y.B. Park, S.H. Hong, C.S. Ha, H.Y. Lee and T.H. Yim	931
Texture Evolution in Grain Growth of Nanocrystalline Ni B.K. Kim, J.A. Szpunar and R. Varano	937
Annealing Texture in Thermal Stability of Ultrafine-Grained Ni B.K. Kim, J.A. Szpunar and A.P. Zhilyaev	943
Abnormal Grain Growth in Silicon Steel N. Chen, S. Zaefferer, L. Lahn, K. Günther and D. Raabe	949
Texture Development in Zn-1.1%Al Alloy under Strong Magnetic Field A.D. Sheikh-Ali, D.A. Molodov and H. Garmestani	955
Consideration of Neighbour Effect by Introducing a Limiting Radius for the Neighbourhood in Fe-3%Si Grain Growth N. Maazi, N. Rouag and R. Penelle	961
Sulfur Segregation and Surface-Energy-Induced Selective Growth in Ultra-Thin 3% Silicon-Iron Alloys Y.S. Choi, S.B. Kim, S.S. Cho, K.H. Chai, J.M. Oh and N.H. Heo	967
Effect of Grain Boundary Character on Selective Growth of Goss Grain in Fe-3%Si Alloy Y. Ushigami, S. Nakamura, S. Takebayashi and S. Suzuki	973
Mechanism of Discontinuous Subgrain Growth in As-Deformed Aluminium Single Crystals M. Ferry	979
Effect of Deformation-Induced Intragranular Microstructure on Plastic Anisotropy and Deformation Textures P. van Houtte and B. Peeters	985
The Role of Texture in Stress-Corrosion Cracking of Metals and Alloys B.D. Lichter, W.F. Flanagan and D.N. Lee	991
Texture Effects on Zircaloy Oxidation : Experiment and Simulation J. Favregeon, C. Valot, T. Montesin and G. Bertrand	999
Microtextural Analyses of the Ni/NiO System after High Temperature Oxidation F. Desserrey, C. Valot, T. Montesin and J.P. Larpin	1007
The Influence of the Texture and Microstructure of a Zr-2.5Nb Substrate upon the Oxidation Kinetics J. Lin, X.H. Cao and J.A. Szpunar	1013
The Influence of Substrate Texture on the Oxidation Kinetics of Copper K.T. Lee, H.T. Jeong, J.A. Szpunar and H.G. Kim	1019
The Role of Textures in the Corrosion Resistance of Electrogalvanized Zn Coatings S.H. Hong, J.B. Kim and S.K. Lee	1025
Texture and Corrosion Mechanisms in Aluminized Steel Sheet S.H. Hong, B.M. Lim, W.S. Chung and J.H. Choi	1031
Effects of Cathodic Polarization on the Pitting Behavior of Aluminum Single Crystals in Hydrochloric Acid Solution J.H. Seo, J.H. Ryu and D.N. Lee	1037
Effect of Texture on the Corrosion Behaviour of High Purity Aluminum S.H. Kim, U. Erb, K.T. Aust and G. Palumbo	1043
Magnetic Properties of Fe-3%Si Sheets Having Ideal Orientations N.J. Park, G.S. Kim and M.Y. Huh	1049
Anisotropic Magnetization Curve Simulation of an Easy-Plane Ferrimagnetic ErMn₄Fe₈C Carbide from Orientation Distribution Data M. Morales, D. Chateigner and D. Fruchart	1055
Magnetic Alignment and Crystallographic Texture Relationships in Permanent NdFeB Magnets S.J. Lillywhite, A.J. Williams and I.R. Harris	1061
Texture Development and Texture Influence on the Mechanical Properties of the Mg-Alloy AZ31 S.B. Yi, H.G. Brokmeier and R.E. Bolmaro	1067
Effect of C on the R-Value Anisotropy of Ti-Added IF Steels S.H. Choi and J. Chung	1073

Through-Thickness Texture Inhomogeneity and its Effect on Formability in IF Steel Sheets Y.B. Park, J. Park and K.G. Chin	1079
Macroscopic Texture and Anisotropy in Ti-Added IF Steels S.H. Choi	1085
The Evolution of the Elastic Properties of FCC Polycrystals Due to Texture Evolution A. Bertram and T. Böhlke	1091
The Influence of Tandem Rolling Process Parameters on the Texture and Earing Behaviour of AA1050 C. Liu, L. Zhuang, M. van der Winden and T.J. Hurd	1097
Calculation of Plastic Strain Ratio of Deep-Drawing Steel Sheets from Texture Q.W. Jiang, Y.D. Zhang, X. Zhao, Z.D. Liang, F.H. Wang and L. Zuo	1103
Evaluation of the Plastic Strain Distribution of Pearlitic Wires during Torsion Y.D. Liu, X. Zhao, A. Tidu, B. Bolle, L. Zuo and J.J. Heizmann	1109
Plastic Strain Ratios of Fe and Ni Electrodeposits H.J. Shin and D.N. Lee	1115
The Effect of Texture on the Pseudoelasticity of CuZnAl Shape Memory Alloy Sheet N.J. Park and S.B. Yi	1121
Texture and Shape Memory Effect of TiNi Alloy Produced from Ti/Ni Laminated Sheets H. Inoue, M. Ishio and T. Takasugi	1127
An Example of Texture Influence in Stress Analysis T.A. Lychagina and H.G. Brokmeier	1133
Effects of Textures on Hydrogen Diffusion in Nickel Y. Cao, H.L. Li, J.A. Szpunar and W.T. Shmayda	1139
Texture Formation and Distribution of Residual Microstrains in Rolled Ti-48%Ni-2%Fe Single Crystals with Shape Memory Properties Y. Perlovich, H.J. Bunge, M. Isaenkova and V. Fesenko	1145
Mechanisms of Recrystallization in Cold and Warm Rolled Low Carbon Steel and IF Steel B.J. Duggan, Y.Y. Tse, H. Ning and M.Z. Quadir	1151
Issues Related to Texture in High Performance Steels O.J. Kwon and S.H. Choi	1161
Effects of Cementite Dissolution and Carbon Diffusion upon the Recrystallization Behaviour of Low Carbon Steel W.B. Hutchinson	1167
Orientation Selection during Phase Transformation in Low Carbon Steels L.A.I. Kestens, R. Decock and R.H. Petrov	1173
Effect of Thermomechanical Processing Parameters upon Texture Development and Yield Strength Anisotropy in High Strength Linepipe Steels J.H. Bae, S.H. Choi and K.B. Kang	1179
Investigation of Macroscopic Grain Sub-Division of an IF-Steel during Cold-Rolling B.L. Li, A. Godfrey and Q. Liu	1185
Orientation Relationships and Variant Selection during α- to γ- Phase Transformation in Low Carbon Steel C.M. Park, G. Brückner and G. Gottstein	1191
Effect of Temper Rolling on Grain Growth in IF Steel S.H. Hong and D.N. Lee	1197
Influence of Sulfur on Formability of Galvannealed Ultra Deep Drawing Quality Steel J.E. Oh, J.K. Kim and Y.B. Park	1203
Texture and Phase Distribution in the Coating Layers of Galvannealed Steel Sheets M.B. Moon, J.H. Seo and Y.B. Park	1209
Micro-Scale Orientation Study of RD//<011> Cold Rolling Texture in Steel H. Homma, N. Yoshinaga, M. Sugiyama and T. Kubota	1215
Increasing the Intensity of {111}<hkl> by Thermomechanical Treatments L.K. Tung and B.J. Duggan	1221
A Comparative Investigation of Warm Rolled IF Steel and Low Carbon Steel M.Z. Quadir and B.J. Duggan	1227
Role of Grain Boundaries, Deformation and Transition Bands in the Nucleation and Successful Growth of γ Grains during the Recrystallization of IF Steel Y.Y. Tse and B.J. Duggan	1233

Evaluation of the Orientation Distribution of Intragranular Ferrite Grains Dynamically Formed during Deformation in a V-Added Low Carbon Steel by EBSD J.Y. Cho, D.W. Suh, J.H. Kang and H.C. Lee	1239
Effect of Inter-Pass Aging on Recrystallization Texture in 3% Si Grain-Oriented Electrical Steels B.D. Hong and K.S. Han	1245
Influence of the Goss Grain Neighbourhood during Secondary Recrystallization of Fe-3%Si Sheets A.L. Etter, T. Baudin and R. Penelle	1251
Effect of Initial Grain Size Prior to Cold Rolling on Annealing Texture in Non-Oriented Electrical Steel J.T. Park, J.A. Szpunar and K.S. Han	1257
Effect of Temper Rolling Reduction and Annealing Time on Texture Formation during Final Annealing in Electrical Steels J.T. Park, J.A. Szpunar and S.Y. Cha	1263
Effect of Primary Microstructure on the Formation of a Sharp Goss Texture in Fe-3%Si Steels K.S. Han, J.K. Kim, S.K. Chang and J.S. Woo	1269
Effects of Sulfur Segregation on Selective Grain Growth and Final Texture in Thin Gauged Grain-Oriented 3% Silicon Steel K.H. Chai, Y.S. Choi, S.B. Kim, S.S. Cho, J.M. Oh and N.H. Heo	1275
Effect of Annealing Atmosphere on Surface-Energy-Induced Selective Grain Growth in Thin-Gauged 3% Si-Fe Strip C.S. Lee, K.H. Chai, J.G. Na, S.K. Yoon and N.H. Heo	1281
Strip Thickness, Flow Rate of Hydrogen, Surface-Energy-Induced Selective Growth Kinetics and Final Texture in Thin-Gauged 3%Si-Fe Alloy System S.B. Kim, Y.S. Choi, S.S. Cho, K.H. Chai, J.M. Oh and N.H. Heo	1287
Coincidence Grain Boundary and Selective Growth of Goss Grain in Fe-3% Si Alloy S. Nakamura, Y. Ushigami, S. Takebayashi and S. Suzuki	1293
Effects of Surface-Segregated Sulfur on Primary Texture and Surface-Energy-Induced Selective Grain Growth in Ultra-Thin 3% Silicon-Iron Alloy S.S. Cho, S.B. Kim, Y.S. Choi, K.H. Chai, J.M. Oh, S.O. Han and N.H. Heo	1299
Abnormal Texture of Grain-Oriented Electrical Steel under High Cold Rolling Reduction Y. Hayakawa, M. Kurosawa and M. Komatsubara	1305
EBSP Observation of Recrystallization Nuclei in a Cold Rolled 3%Si-Fe (100)[011] Single Crystal T. Toge, M. Muraki and M. Komatsubara	1311
Microscale Texture of Hot Deformed 3%Si-Steel and Statically Recrystallized Orientations M. Muraki, Y. Ozaki, T. Obara and M. Komatsubara	1317
Observation of Secondary Recrystallization Process in 3% Si-Steel with EBSD M. Komatsubara and T. Imamura	1323
Effects of Electrostatic Field on Recrystallization Texture and Grain Boundary Character Distribution in a Fe-3%Si Alloy Y.H. Sha, X.Y. Gao, C.L. Dai, J.Z. Xu, X. Zhao and L. Zuo	1329
Evolution of Microstructure and Texture Associated with Ridging in Ferritic Stainless Steels S.H. Park, K.Y. Kim, Y.D. Lee and C.G. Park	1335
Transformation Behavior of Retained Austenite in Hydroformed TRIP Steel S.T. Oh, K.K. Park, H.N. Han, S.H. Park and K.H. Oh	1341
Texture Evolution during High Temperature Gas Nitriding of Duplex Stainless Steels A.P. Tschiptschin, C.M. Garzón and N.B. de Lima	1347
Deformation and Recrystallization Textures in Duplex Stainless Steel N.B. de Lima, L.M.F.G.d. Lima, W. Reick and A.F. Padilha	1353
Microstructure and Texture Analysis in a Cold-Rolled Austenitic-Ferritic Steel with Duplex Structure J. Jura, T. Baudin, M.H. Mathon, W. Swiatnicki and R. Penelle	1359
The Effect of Grain Boundary Character Distribution (GBCD) on Edge Cracking during Hot Rolling of Austenitic Stainless Steel J.Y. Cho and J.A. Szpunar	1365

Textural Development in AISI 316 Stainless Steel during Cold Rolling and Annealing S.G. Chowdhury, S. Das, B. Ravikumar, S. Kumar and G. Gottstein	1371
Texture Evolution in Weld Regions of SUS-304 Stainless Steel and TRIP Steel X.H. Ha, S.W. Jang, W.H. Bang, U. Yoon and K.H. Oh	1377
QPA of Retained Austenite in TRIP-Aided Cold Rolled Steels Using Neutron Diffraction E.J. Shin, B.S. Seong, C.H. Lee, S.C. Baik and M.Y. Huh	1383
Determination of the Morphological Textures of Fibres in a Composite Material Made from a Textile of AISI 316L Fibres G. Langelaan, S. Ryelandt, F. Delannay, J.H. Root and P. van Houtte	1389
Factors Affecting the <001> Fiber Texture in Strip-Cast Stainless Steels M. Ferry and A. Hunter	1395
Effect of Rolling Reduction on the Development of Rolling and Recrystallization Textures in Al-Mg Alloys S. Endou and H. Inagaki	1401
Modeling of Rolling and Recrystallization Textures in the Production of Aluminum Sheets O. Engler	1407
Orientation Coherence of Rolled and Annealed Aluminum Plate C.S. Shin, J.H. Ryu and K.H. Oh	1413
Shear Texture Development and Grain Refinement in Asymmetrically Rolled Aluminum Alloy Sheets by Varied Reduction per Pass J.K. Lee and D.N. Lee	1419
Effect of Initial Textures on the Texture of Aluminum after Asymmetrical Rolling S.H. Hong, D.N. Lee and K.H. Kim	1425
Analysis of Deformation and Recrystallization Textures of Shear Deformed 1050 Aluminum Alloy J.Y. Park, S.H. Hong and D.N. Lee	1431
Torsion and Annealing Textures of 99.99% Aluminum J.K. An, K.H. Kim, K.K. Um and D.N. Lee	1437
Influence of Pre-Annealing and Additional Deformation on the Recrystallization Texture of High-Purity Aluminum Foils X.M. Zhang, Y.Q. Xiao, J.G. Tang, Z.Y. Chen, S.D. Liu and Z.P. Zhou	1443
Influence of High Hot-Rolling Temperature and Multistage Annealing upon the Cube Texture of High Purity Aluminum Capacitor Foils Y.Q. Xiao, C.M. Liu, S. Jiang, Z.Y. Chen and X.M. Zhang	1449
Formation of Shear Texture and Ultra-fine Grains in Warm Rolled AA 3004 Sheets M.Y. Huh, H.D. Kim, K.R. Lee, B.B. Hwang and O. Engler	1453
Sharpening of the Cube Texture in AA3004 Alloy by Three Step Processes of Partial Annealing and Light Rolling T. Murakami and K. Sakuma	1459
Influence of the Strain Path in Torsion on the Deformation- and Recrystallization Textures of AA1050 and AA3103 Aluminium Alloys R. Valle, S. van der Zwaag and E. Nes	1465
Recrystallization Textures and the Evolution of the P-Orientation as a Function of Precipitation in an AA3103 Alloy K. Sjølstad, O. Engler, S. Tangen, K. Marthinsen and E. Nes	1471
Rolling and Annealing Texture of 3004 Aluminium Alloy D.F. Zhang, X.P. Jiang, Z.C. Hu, F.H. Wang and L. Zuo	1477
Texture Development during Tensile Deformation in Al-Mg Alloys S. Ohtani and H. Inagaki	1483
Texture Evolution of AA5052 during Monotonic and Reversed Hot Deformation and Subsequent Recrystallization Q. Zhu, B.P. Wynne, J.H. Beynon and C.M. Sellars	1489
Effect of Strain Paths on the Evolution of Texture and Work Hardening in AA 5052 Sheets during Continuous Confined Strip Shearing Deformation Y.H. Chung, J.P. Ahn, H.D. Kim, B.B. Hwang, O. Engler and M.Y. Huh	1495
Texture Evolution during Hot Deformation and Annealing of AA5182 Alloy H.L. Yiu, J. Savoie, E.M. Lauridsen, A. Bosland, L. Margulies, S.F. Nielsen, S. Schmidt and M. Zeng	1501

Tool Geometry Dependence of Local Texture in Friction Stir Welds of 7050 Aluminum Plate	
D.P. Field and T.W. Nelson	1507
Microstructure and Texture Evolution during Superplastic Deformation of 7475 Al Alloy	
B.K. Kim, J.A. Szpunar, B. Alexandre and Y. Takayama	1513
The Texture of Ultra-Fine Grained Al-Mg Alloys	
A. Gholinia, J.F. Humphreys and P.B. Prangnell	1519
Microstructure and Texture of Eutectic Al-Si Alloy with Multiple Cold Rolling and Heat Treatment	
D. Soung, I.S. Kim, I. Kim, H.D. Kim and H. Jeoung	1525
Orientation Relationship of Phases in an Oxidation Protection Coating on a Ni-Based Superalloy Single Crystal	
S. Zaeferrer and U. Glatzel	1531
Orientation Change of Epitaxial Pt Films on MgO(001) via Deposition Conditions	
K.H. Ahn, S.S. Kim and S. Baik	1537
Texture Analysis of Ferroelectric Thin Films on Platinised Si-Based Substrates with a TiO₂ Layer	
J. Ricote, M. Morales and M.L. Calzada	1543
Real Time In Situ Texture Investigations of Thin Film Growth Using RHEED	
R. Hühne, S. Fähler, B. Holzapfel, C.G. Oertel, L. Schultz and W. Skrotzki	1549
Effect of Line Geometries on Textures in Damascene Cu Lines	
J.M. Paik and Y.C. Joo	1555
Ni and Ni-Alloy Tapes with a Very Strong Cube Texture as Substrates for High Temperature Superconducting Tapes	
V.S. Sarma, B. De Boer, N. Reger, J. Eickemeyer, R. Opitz and B. Holzapfel	1561
Textures of Cu and Dilute Binary Cu(Ti) and Cu(In) Thin Films	
A. Gungor, K. Barmak, A.D. Rollett, C. Cabral and J.M.E. Harper	1567
Oriented Growth of LiNbO₃ Thin Films for SAW Properties	
V. Bornand, I. Huet, D. Chateigner and P. Papet	1573
Planar Texture Developed in Plasma Treated Polypropylene Films	
M. Aouinti, D. Chateigner, A. Gibaud and F. Poncin-Epaillard	1579
Relationships between the Texture and Longevity of TiN Thin Films	
I.S. Kim, S. Dost, H.W. King, S. Ferguson and D.R. Nagy	1585
Texture Evolution in TiN, TaN and W₂N Thin Films	
I.S. Kim and S. Dost	1591
Microstructure and Texture of Electrodeposited Cu on TiN Thin Films without a Cu Seed Layer	
I. Kim, I.S. Kim, S. Hong and D.H. Kim	1597
Rietveld Texture and Stress Analysis of Thin Films by X-Ray Diffraction	
L. Lutterotti, S. Matthies, D. Chateigner, S. Ferrari and J. Ricote	1603
The Effect of Substrate Texture and Electroplating Conditions on the Texture and Surface Morphology of Copper Electrodeposits	
J.Y. Cho and J.A. Szpunar	1609
Effects of Local Texture and Grain Structure on the Sputtering Performance of Tantalum	
C.A. Michaluk, D.P. Field, K.A. Nibur, S.I. Wright and R.A. Witt	1615
Texture Evolution in CVD-Grown Diamond Analyzed by Micro-Diffraction	
J. te Nijenhuis, M.J. Fransen and J.H.A. Vasterink	1621
Texture Investigations In Damascene Copper Interconnects	
K.K. Mirpuri, J.A. Szpunar and K.J. Kozaczek	1627
Texture and Grain Structure of Iron Film Obtained by CVD with Imposition of Magnetic Field	
N. Yoshikawa, T. Endo, S. Awaji, E. Aoyagi and S. Taniguchi	1633
Texture Evolution of Cu Thin Films during Annealing	
M.T. Pérez-Prado and J.J. Vlassak	1639
Computer Simulation of Martensitic Transformation in Constrained Films	
D.J. Seol, S.Y. Hu, Y.L. Li, L.Q. Chen and K.H. Oh	1645

Evolution of Surface Morphologies in Sputtered and Electroplated Cu Films during Thermal Cycling	1651
S.J. Hwang, H. Park, J.H. Lee, K.H. Oh and Y.C. Joo	
Effects of Current Waveform and Bath Temperature on Surface Morphology and Texture of Copper Electrodeposits for ULSI	1657
H.J. Lee and D.N. Lee	
Texture in Piezoelectric Titanates	1663
J.L. Jones, A. Myers, W.F. Shelley II and K.J. Bowman	
Recrystallization Textures during Laser-Assisted Machining of Zirconia Ceramics	1669
K.J. Bowman, F.E. Pfefferkorn and Y.C. Shin	
Textural Analysis of a Microcrystalline Quartz using X-Ray and Electron Backscatter Diffraction (EBSD) Techniques	1675
D. Chateigner, G. Camana and P.W. Trimby	
Deformation Mechanisms, Crystallographic Fabrics and Rheology of Quartz-Iron Oxide Rocks	1681
L. Lagoeiro	
QTA of Prismatic Calcite Layers of some Bivalves, a Link to Trichite Ancestrals	1687
D. Chateigner, M. Morales and E.M. Harper	
Texture Development and Phase Transformation in Liquid-Phase-Sintered SiC Ceramics	1693
W.J. Kim, Y.W. Kim and M.H. Choi	
EBSD Analysis of Grain Boundary Characteristics of Abnormally Grain Grown Alumina	1699
D.I. Kim, J.H. Lee, Y.W. Kim, K.H. Oh and H.C. Lee	
Crystallographic Distribution of Low Angle Grain Boundary Planes in Magnesium Oxide	1705
D. Saylor, A. Morawiec, K.W. Cherry, F.H. Rogan, G.S. Rohrer, S. Mahadevan and D. Casasent	
Anisotropic Microstructure of Iron Oxides Formed during High Temperature Oxidation of Steel	1711
B.K. Kim and J.A. Szpunar	
Simulation of Texture Evolution during Wire Drawing of BSCCO Superconductors	1717
S. Ahzi, I. Haque and S. Tombat	
Modeling and Simulation of Deformation Texture in Semi-Crystalline Polymers: Application to Polypropylene and Nylon-6	1723
S. Ahzi, A. Ganesan and E. Arruda	
Molecular Order and Morphology of Polymer Stabilized Liquid Crystals	1729
Y.K. Ko, S.Y. Kang and H.T. Jung	
Control of Surface Morphology in PS and PVP Hybrid Thin Films	1735
H.M. Kang, S.C. Kim, S.H. Lee and K.H. Char	
Structure, Morphology and Low-Temperature Impact Resistance of Linear Low-Density Polyethylenes	1741
K.S. Shin, D.H. Lee and J.Y. Jho	
Morphology Control and Catalytic Application of Mesoporous Structures Prepared by Sol-Gel Processing	1747
Y.K. Kwon, D.H. Kim, K.H. Chang and G.J. Kim	
Preparation of Tetracene Single Crystal : Determination of Crystal Orientation by Electron Diffraction	1753
C. Seoul and H. Zheng	
Analysis of the $\beta \rightarrow \alpha$ Variant Selection in a Zy-4 Rod by Means of Specific Crystal Orientation Maps	1759
N. Gey, M. Humbert, E. Gautier and J.L. Béchade	
Textures in Powder-Metallurgy Processed Nb/Al Composites	1765
L.Q. Chen and N. Kanetake	
Evaluation of Casting Textures in Al/Al₃Ti Platelet Functionally Graded Material Fabricated by a Centrifugal Solid-Particle Method	1771
Y. Watanabe, H. Eryu, T. Yamamoto, S. Andiarwanto and H. Miura	
Effects of Thermomechanical Processing on Texture Formation in Titanium Aluminides	1777
W. Skrotzki, R. Tamm, H.G. Brokmeier, M. Oehring, F. Appel and H. Clemens	
Textures and Ordering Influence in γ-TiAl Based Alloy	1783
F. Zhang, Y.H. Sha, Y.D. Wang, J.Z. Xu, L. Zuo and C. Esling	

Role of Cross-Slip in Determining Orientation Relationships during the γ -to- α Transformation

J.J. Jonas and Y.L. He

1789