

Table of Contents

Preface and Organizers

TiAl Alloys and Advanced Structure Intermetallics

Preparation of Multilayered Ti-Al Alloys by Solid Reaction Y.B. Sun, M.W. Liu, S.J. Ge, F.M. Ma and C.L. Ma	1
Lattice Structures of AlSc and their Effect on Interdiffusion J. Li, F. Ye, L. Huang and Y.F. Liang	9
Microstructure Evolution of TiAl under Tensile Impact Loadings X. Zan, L. Ouyang, Y. Wang, Y.H. He, Y. Liu and W.D. Song	14
The Effect of Stoichiometry and Degree of Order on Mechanical Properties of Ni₃Fe Intermetallics Y.X. Chen, H.Y. Qian and T. Chen	19
Fabrication and Properties of Rapidly Quenched Fe-6.5wt.%Si Alloy Ribbons R.Q. He, J.P. He, X.S. Fang, X.O. Jin, Y.F. Liang, F. Ye and J.P. Lin	25
Numerical Simulation and Process Optimization of Directional Solidification of Nb Containing High Silicon Steel K. Yang, F. Ye, Y.F. Liang and J.P. Lin	31
Microstructure Transformation of a Refined High Nb Containing TiAl Alloy L.H. Chai, L. Yang, J.P. Zhang, Z.Y. Zhang, L.Q. Zhang and J.P. Lin	38
Effect of Al on Microstructures and Properties of Ti-45Al-8.5Nb-0.2B-0.2W Alloy X.J. Xu, J. Lin and D.D. Han	44
Numerical Analysis of Superplastic Bulging Process of TiAl Sheet C.Y. Wang, J.S. Li, B. Tang and H.C. Kou	50
Effect of Nb Addition on the Corrosion Behavior of Porous TiAl Based Alloys in Aqueous Environments F. Yang, X. Li, N. Tian, Y.F. Liang and J. Lin	57
Intrinsic Brittleness of Mo₃Si by First-Principle Calculations L.Q. Zhang, W. Du, M. Wang, Y.M. Hou, X.D. Ni and J.P. Lin	63
Isothermal Corrosion Behaviors of TiAl-Nb Alloys in Liquid Zn-55Al-1.6Si (wt.%) P.F. Sun, X.O. Jin, Y.F. Hu and J. Lin	69
Laser Remelting Effect on the Joint Property of Diffusion Bonding of TiAl Intermetallics and TC4 Alloy Z.G. Xue, Y.X. Huang, Y.T. Wang and X.J. Hai	77
The Influence of Niobium on the Interdiffusion Coefficients in α_2 and γ of TiAl Alloys D.D. Han, X.J. Xu, L.Q. Zhang, Y.F. Liang and J. Lin	85
Effects of Scandium on Corrosion Resistance and Mechanical Properties of Cellular Al-Based Foams L. Huang, D.H. Yang, H. Wang, F. Ye and Z.P. Lu	93
Preparation of TiAl Intermetallic Alloy by Gelcasting Q. Ye, Z.M. Guo, Q.K. Duan, C.L. Yang and J.J. Hao	101
Numerical Simulation and Process Optimization of Investment Casting of the Blades for High Nb Containing TiAl Alloy L. Yang, L.H. Chai, L.Q. Zhang and J. Lin	105
The Microstructure and Compression Behavior of Multi-Step Forging Ti-45Al-8Nb Alloy after Annealing at 1100 °C L. Song, X.J. Xu, J. Lin and L.Q. Zhang	111
Influence of Exposure at 750°C on Room Temperature Tensile Ductility of Cast TiAl Alloy with the Directional Lamellar Microstructure C.L. Zhu, X.W. Zhang and J. Zhang	115
Investigation on B, Cr Doped Ni₃Al Alloy Prepared by Self-Propagation High-Temperature Synthesis and Hot Extrusion L.Y. Sheng, J.T. Guo, C. Yuan, F. Yang, G.S. Li and T.F. Xi	124
Room Temperature Brittleness of T2 in the Mo-Si-B System K.M. Pan, L.Q. Zhang, W. Du and J.P. Lin	132

Microstructure and Mechanical Properties of TiAlNb Coating Deposited by APS and HVOF Spraying H.J. Zeng, L.Q. Zhang, X.Y. He, Y.C. Zhang, P. Jia and J. Lin	139
Aerospace Materials	
A Study of Laser Cladding on the NiCr/Cr₃C₂-WS₂-CaF₂ Coating S.F. Chen, C.L. Feng, J. Yang and J.S. Chen	146
Experimental Research on the Friction and Wear Properties of Ni-Based Composite Coating Prepared by Laser Cladding S.F. Chen, C.L. Feng, J. Yang and J.S. Chen	152
Advanced Magnesium Alloy and Application	
Effect of Heat Treatment on the Structure and Properties of EW75 Magnesium Alloy Plate J. Qu, K. Zhang, M.L. Ma, Y.J. Li and X.G. Li	158
Manufacturing Technology of Magnesium Alloy Bicycle Parts Z.M. Shi, L.Y. Niu, J.X. Lin, D.R. Sun, Y. Li, L. Zhao and G.Y. Li	166
Residual Stresses in Spray Quenched EW75 Magnesium Alloy H.B. Liao, M.L. Ma, X.G. Li, K. Zhang, Y.J. Li and G.L. Shi	172
Microstructure and Properties of MAO Coatings for AZ91D Magnesium Alloy in Varies Work Mode X.J. Cui, X.Z. Lin, C.H. Liu, R.S. Yang and M.T. Li	178
Effect of Zn Addition on Microstructure and Mechanical Properties after Extrusion, Rolling and Ageing in Mg-9Gd-3Y-0.5Zr Alloys W.N. Tang, S.Q. Li, R. Chen, E.H. Han and W. Ke	184
Dynamic Precipitation Behaviors and Mechanical Properties of Mg-12Gd-3Y-0.5Zr Alloy Processed by Secondary Extrusion D.J. Li, Y.P. Zhou, X.Q. Zeng, W.J. Ding, B. Chen and Y.Z. Liu	192
Processing and Microstructures of δ-Al₂O₃/ AE44 Composite Synthesized by SS-HPDC L. Li, D.J. Li and X.Q. Zeng	198
Deformation and Workability Evaluation of GW103K Magnesium Alloy in Hot Compression R.X. Yu, S.Y. Wang, Q. Tang and X.Q. Zeng	204
Experimental and Numerical Investigation of the Grain Size Evolvment of AZ31 Mg Alloy during High Ratio Extrusion J.B. Lin, L.F. Ma, Y.X. Chen, C. Wang, Q.X. Liang and X.C. Cui	211
Formation of a New Mg-Cu-Ni-Gd Bulk Metallic Glass: Effects of Rare Earth on Glass-Forming Ability of Mg-Tm-Re Bulk Metallic Glasses J. Yin, Z.J. Zhou, Z.P. Qi and Y. Liu	217
Effect of Rolling Reduction on Microstructure and Mechanical Properties of Mg-9Gd-3Y-0.5Zr Alloys S.Q. Li, W.N. Tang, R. Chen, E.H. Han and W. Ke	223
Effects of Heat Treatments on Corrosion Behavior of Mg AT72 Alloy Z.Q. Wang, D.J. Li, X.Q. Zeng, X.M. Wu and W.J. Ding	230
Effect of Sm on the Microstructure and Mechanical Property of Mg-xSm-0.4Zn-0.3Zr Alloys X. Su, D.J. Li, Y.C. Xie, X.Q. Zeng and W.J. Ding	238
Effects of Gd on the Microstructure and Mechanical Properties of Mg-3Sn Alloys J. Luo, R. Chen and E.H. Han	245
Microstructures and Mechanical Properties of a New Biomedical Material Mg-13Li-X Alloys Y.C. Zhang, S. Luo, Q.Q. Zhang, X.Q. Xu and T.T. Zhou	251
<i>In Vitro</i> and <i>In Vivo</i> Studies on a MgLi-X Alloy System Developed as a New Kind of Biological Metal S. Luo, Q.Q. Zhang, Y.C. Zhang, C. Li, X.Q. Xu and T.T. Zhou	257
Microstructure and Bonding Strength of AZ91/Al Composite Fabricated by Brazing and Hot-Rolling L. Yang, D.W. Zhao, Z.L. Zhang, H.L. Shan, L. Yang and Z. Liu	264

Effect of ECAP Pass on Corrosion Behavior of High-Al Content Magnesium Alloys Q. Fan, W. Liang, L.P. Bian and M.Q. Cheng	270
Effect of Processing Speed on Microstructures and Mechanical Properties of Submerged Friction Stir Processed AZ91 Alloy F. Chai, D.T. Zhang, W. Zhang and C. Qiu	276
Microstructures and Mechanical Properties of Mg-8Al-1Nd-0.5Zn-xSr Alloys B.L. Shi, T.J. Luo, R.D. Liu, X.G. Dong, J. Wang and Y.S. Yang	282
Microstructure and Mechanical Properties of Mg-6Zn-2Si Alloy Processed by Equal Channel Angular Pressing Y. Zhang, F.Y. Han, Y.S. Wang, W. Liang, P. Wang, J.X. You and X.T. Zhong	289
Biodegradable Behaviors in Simulated Body Fluid of Mg-Gd-Y-Zr Alloy with Micro-Arc Oxide Coating K.Y. Yin, T.F. Lu, Q. Dong, B.Y. Sun and B. Chen	295
Effect of Aging Temperature on Microstructure and Mechanical Properties of AZ81-4%Gd Magnesium Alloy Q.Y. Guo, Z. Liu, P.L. Mao and J. Sun	301
Optimization of Heat Treatment Process on Vacuum Die-Casting AT72 Magnesium Alloy D.Q. Li, Y. Liu, J. Xu, S. Shao, C.S. Xu, X.F. Lu and X.J. Yang	307
Microstructure and Corrosion Resistance of AZ80/Al Composite Plate Fabricated by Friction Stir Processing F.C. Liu, Q. Liu, C.P. Huang, K. Yang, C.G. Yang and L.M. Ke	313
Hot Deformation Behavior and Microstructural Evolution of Mg-Nd-Zn-Zr Magnesium Alloy W.X. Wu, L. Jin, J. Dong, Z.Y. Zhang and W.J. Ding	320
Fabrication of Carbon Fiber Reinforced Magnesium-Based Composite Laminates by Vibration Assisting Hot Pressing S.Y. Liu, J.J. Zhang, W. Liang, L.P. Bian and X.R. Li	327
Isochronal Aging Hardening of the Mg-8Gd-3Y-0.5Zr Alloy after Cold Rolling Y.C. Xie, D.J. Li, X.Q. Zeng, X. Su, W.J. Ding and B. Chen	333
Effects of Texture on Tensile Property of Extruded AZ31 Magnesium Alloy Investigated by Acoustic Emission C.K. Sun, H.Y. Luo and Z.Y. Han	340
Study on Interface Characteristics of Al/Mg/Al Composite Plates Fabricated by Two-Pass Hot Rolling C.Z. Luo, W. Liang, X.R. Li and Y.J. Yao	346
Influence of Annealing Temperature on Microstructure and Properties of Warm-Rolled AZ31 Magnesium Alloy Sheets H. Zhang, G.S. Huang, J.H. Lin and L.F. Wang	352
Microstructures and Mechanical Properties of ZK60-XHo Wrought Magnesium Alloys Z.H. Huang, W.J. Qi and J. Xu	359
Rolling Temperature and Subsequent Annealing on Microstructure, Texture and Mechanical Properties of Consecutive Rolled Mg-2.0Zn-0.8Gd Alloy H. Yan, R. Chen and E.H. Han	369
Precipitation Behavior and Microstructure Evolution of Mg-Zn-Zr-Er Alloy Processed by Secondary Deformation and Heat Treatment B.X. Zhang and J. Zhang	377
Effect of Al₂Ca Compound on Microstructure of As-Cast AZ31 and AZ61 Alloys Q.S. Yang, B. Jiang, X.Y. Huang, X.K. Li and F.S. Pan	383
Effects of Shrinkage Porosity on Mechanical Properties of a Sand Cast Mg-Y-Re (WE54) Alloy J.L. Li, Y.Q. Ma, R. Chen and W. Ke	390
Microstructure and Tensile Properties of Mg-4Zn-2Sn-2Al Alloy D.Q. Zhao, X.G. Dong, X.E. Zhang, A.J. Gao, J.X. Zhou and Y.S. Yang	398
Numerical Simulation Research on Wide Casting Nozzle of Twin-Roll Magnesium Alloy X.P. Liang, S.S. Liao, L. Xiao and B. Jiang	404
Temperature Field and Cast-Rolling Force Prediction during Horizontal Twin-Roll Casting Magnesium Alloy X.P. Liang, L. Xiao, S.S. Liao and B. Jiang	412

Microstructure and Kinetics of β-Mg₁₇Al₁₂ Phase Transformation for Warm Rolled AZ91 Magnesium Alloy	421
L. Yang, J.D. Wang, S.N. Wang, L. Lin and Z. Liu	
Microstructure and Mechanical Properties of Backward-Extruded Mg-Zn-xCa Biomaterials	426
X.J. Li, H. Li, S.S. Zhao, N. Ma and Q.M. Peng	
Metal Flow Behaviour in Tee Joint Valve Body Multidirectional Extrusion	431
M. Cheng and Z.M. Zhang	
Corrosion and Electrochemical Behaviors of As-Cast Mg-8Y and Mg-5Y-7Gd-1Nd-0.5Zr Magnesium Alloys in NaCl Aqueous Solution	437
X. Zhang, X. Deng, K. Zhang, X.G. Li, Y. Shi, Y.L. Zhang, M. Peng and L.Y. Kong	
Microstructure and Mechanical Properties of Extruded Mg-Zn-Y Alloy	443
F. Wang, J.B. Li, P.L. Mao and Z. Liu	
Effects of Solid Solution Treatments on Microstructures and Tensile Properties of a Mg-Y-Zn-Cu Alloy	449
B.Q. Shi, R. Chen and W. Ke	
Microstructure and Mechanical Properties of Extruded AZ31 Profile with High Performance	457
B.Y. Yu, T.J. Gao, Q. Li, Y.J. Wu and R.X. Li	
Analysis of Factors Influencing CPU Heat Dissipation of Porous Magnesium	463
L.C. Wang, Y.L. Wang and C.X. Wang	
Influences of Al, Ce on the Microstructure and Mechanical Properties of As-Cast Mg-6Zn Alloy	470
R.D. Liu, X.G. Dong, F.J. Wei and Y.S. Yang	
Superalloys	
Tensile Properties of a Low-Cost First Generation Single Crystal Superalloy DD16	478
J.W. Xu, Y.S. Zhao and D.Z. Tang	
Effects of Coating on Surface Recrystallization of DD6 Single Crystal Blades	483
Y.L. Jia, Y.S. Zhao, Y.S. Luo, S. Yang, J.W. Xu and D.Z. Tang	
Mechanical Properties and Deformation Texture of GH536 Superalloy Strip	489
C.L. Jia, Q. Fan, Y. Wang, Y.Y. Zhang and Q. Li	
Effect of Heat Treatment on the Microstructure and Property of TiAl Alloys Prepared by Gas Atomization Powders	497
N. Liu, Z. Li, G.Q. Zhang, H. Yuan, W.Y. Xu and Z.J. Gao	
Effect of Salt-Coating Hot Corrosion on Stress-Rupture Properties of a Corrosion Resistant Directionally Solidified Superalloy	502
X.D. Chen, Q. Li, C.B. Xiao and W.P. Ren	
Effects of Consolidation Process on the Microstructure and Mechanical Properties of ODS Ferritic Alloy	507
T. Liu, H.L. Shen, T.W. Zhang, M. Zhu and C.G. Qin	
Evaluation of Inclusions in P/M Superalloy	513
H. Yuan, Z. Li, G.Q. Zhang, W.Y. Xu and N. Liu	
Surface Segregation and Oxidation Behavior of Superalloy Powders Fabricated by Argon Atomization	518
Z.J. Gao, G.Q. Zhang, Z. Li, H. Yuan, W.Y. Xu and Y. Zhang	
Detection and Deformation Mechanism of Non-Metallic Inclusions in FGH96 Alloy Isothermal Forging Disk	526
X.F. Wang, X.M. Zhou, J. Yang, J.W. Zou and W.X. Wang	
Formation of Stray Grains in Directionally Solidified Ni-Based Superalloy with Cross-Section Change Regions	535
W.D. Xuan, Z.M. Ren, H. Liu and T.S. Tu	
Microstructure and Hot Tearing Susceptibility of K418 and K419 Superalloy for Auto Turbocharger Turbine Wheel	540
Z.X. Shi, J.X. Dong and M.C. Zhang	
Effect of Solid Solution Heat Treatment on Microstructures of the Third Generation Single Crystal Superalloy DD9	549
X.G. Wang, J.R. Li, Z.X. Shi and S.Z. Liu	

A New Deformation Region and How Low Do You Go? – "Intrinsic Deformation Limit" J.J. Shen, K. Ikeda, S. Hata and H. Nakashima	559
Quantitative Analysis on Fatigue Fracture of Spray Formed GH738 Alloy D.Y. Yang, W.Y. Xu, Z. Li, G.Q. Zhang, Z.L. Ning and J.F. Sun	564
Constitutive Characteristic of Hot Deformation for Spray Formed Superalloy GH738 Y. Wang, Z. Li, W.Y. Xu, H. Yuan, N. Liu, Z.J. Gao, S.F. Tian and G.Q. Zhang	569
Preparation and Oxidation Behaviour of an Al-Si Coating on a Ni₃Al Based Single Crystal Superalloy IC21 Y.Z. Liu, Q. Wu, S.S. Li, Y. Ma and S.K. Gong	575
Effect of Cr and Re on the Oxidation Resistance of Ni₃Al-Base Single Crystal Alloy IC21 at 1100 X.J. Xu, Q. Wu, S.K. Gong and S.S. Li	582
Microstructure Evolution and Processing Map of Superalloy GH720Li during Isothermal Compression Z. Li, S.H. Fu, T. Wang, Y.X. Zhao, Y. Zhang and M.C. Zhang	588
Superalloys and the Development of Advanced Ultra-Supercritical Power Plants X.S. Xie, C.Y. Chi, S.Q. Zhao, J.X. Dong and F.S. Lin	594
Improvement in Oxidation Resistance of Ni₃Al Based Single Crystal Superalloy IC32 by NiAlHfSi Coating P.C. Dai, H. Peng, Y.L. Pei, Y. Ma, S.S. Li and S.K. Gong	604
Influence of Annealing Time on Microstructure of Ni-W Alloys Q. Zhang, S.H. Liang, C. Zhang and J.T. Zou	613
Preparation of Oxide Dispersion Strengthened Fe by Co-Precipitation Z.M. Guo, W.W. Yang, J. Luo and X. Yu	619
Influence of Withdrawal Rate on Tensile and Stress Rupture Properties of the Single Crystal Superalloy DD9 Z.X. Shi, J.R. Li and S.Z. Liu	625
Effects of Nb/Ti Ratio on the Microstructures of Two Experimental Ni-Based Cast Superalloys W. Sun, X.Z. Qin, W. Wang, T.T. Wang, Y.A. Guo, J.T. Guo, L.H. Lou and L.Z. Zhou	629
Microstructure and Mechanical Properties of 9Cr-ODS Ferritic/Martensitic Steels by Mechanically Alloyed and Spark Plasma Sintering J. Yang, Z.M. Guo, W.W. Yang, J. Luo and C.G. Chen	636
Self-Propagating Combustion Synthesis and Characterization of ODS Fe-Base Superalloy Powders C.G. Chen, Z.M. Guo, J. Luo, W.W. Yang, J.J. Hao and J. Yang	641
Stability of Microstructure and Mechanical Properties of GH984G Alloy during Long-Term Thermal Exposure T.T. Wang, C.S. Wang, J.T. Guo and L.Z. Zhou	647
Thermodynamic Description of the γ' Phase in the Co-Al-W Based Superalloys S.Y. Yang, M. Jiang and L. Wang	654
Influence of Ageing Treatments on Stress Rupture Properties of Ni₃Al-Base Single-Crystal Alloy IC21 at 850°C H. Li, F.L. Li, S.S. Li, H. Zhang and S.K. Gong	659
Heat Treatment of a Ni₃Al-Based Single Crystal Alloy IC32 D.L. Cui, X.Y. Xie, S.S. Li, H. Zhang and S.K. Gong	665
Influence of Phosphorus and Boron on Creep Behavior and Fracture Mechanism of GH4169 Superalloy S.G. Tian, X. Wang, C. Liu and W.R. Sun	672
Effects of Long-Term Aging Treatment on Stress Rupture Properties of FGH95 Ni-Base Superalloy S.G. Tian, G.L. Xie, J. Xie and X.M. Zhou	678
Effects of Long-Term Aging Treatment on Stress Rupture Properties of FGH95 Ni-Base Superalloy S.G. Tian, G.L. Xie, J. Xie and X.M. Zhou	684
Influence of Solution Temperature on Compositions Segregation and Creep Behavior of a Single Crystal Nickel-Based Superalloy S.G. Tian, Y.C. Xue and Z. Zeng	690

Microstructure and Creep Property of DZ125 Nickel-Based Superalloy S.G. Tian, X.L. Meng, N. Tian and H.C. Yu	697
Thermal Deformation Behavior and Constitutive Equation of Highly Alloyed Superalloy Udimet720Li T. Wang, S.H. Fu, Z. Li, Y. Zhang, Y.X. Zhao and L. Guo	703
Study on the Properties of Spray Formed Tool-Die Steel Y. Zhang, G.Q. Zhang, Z. Li and X.L. Ni	709
The Influence of the Re-Melting Times on Microstructure and Mechanical Properties for Revert Alloy K452 C. Yuan, J.T. Guo, C.J. Liu, J.S. Hou and G.S. Li	715
Stress Corrosion Cracking (SCC) of Nickel-Base Weld Metals in PWR Primary Water R. Xiong, Y.J. Qiao and G.L. Liu	723
Effect of Alloy States on the Recrystallization Behavior in Single Crystal Superalloy L.R. Liu, J.S. Huang and G.Q. Zu	733
Atomic Interchange Potentials Calculation of Ni-Al-Cr Alloy Based on Microscopic Phase Field Method W.P. Dong, Z. Jing and Z. Chen	739
Mechanical Properties and Microstructure of Nb/Nb5Si3/Cr2Nb Alloys Prepared by Spark Plasma Sintering W. Zong, W. Liu and J.B. Sha	747
Effect of Mo on the High Temperature Oxidation Behavior of Co-Al-W Based Alloys F. Fan, H. Sun, D. Zhao and J.B. Sha	754
Precipitation and Dissolution Behavior of δ Phase in Alloy GH4169G F. Liu, L.X. Yu, L.T. Chang, X. Xin, W.H. Zhang, D. Jia, F. Qi and S.C. Li	760
Interaction between Two Ni-Base Alloys and Ceramic Moulds J.S. Yao, D.Z. Tang, X.G. Liu, C.B. Xiao, X. Li and C.X. Cao	765
Effect of Hot Isostatic Pressing on the Microstructure of Single Crystal Ni-Based Superalloy DD10 L.J. Liu, M. Xue, J.Y. Chen and L.M. Cao	772
Effects of Ruthenium on Microstructure and Stress Rupture Properties of a Nickel-Base Single Crystal Superalloy S. Yang, J. Zhang, Y.S. Luo, Y.S. Zhao, D.Z. Tang and G.Q. Cao	777
Research on Gradient Heat Treatment of Dual-Property Disk for Alloy FGH96 Y. Wang, J.W. Zou, G.Q. Zhang and W.X. Wang	783
Effects of Dy on the Microstructure and Hardness of NiAl Alloys Z.Y. Zhang, H.B. Guo, H. Peng, S.K. Gong and H.B. Xu	788
Grain Competition Mechanism of a Ni₃Al-Based Single Crystal Superalloy IC6SX L.W. Jiang, S.S. Li, M.L. Wu and Y.F. Han	797
Investigation on Creep Mechanism of a Ni₃Al-Based Single Crystal Superalloy IC6SX under 760°C/540MPa L.W. Jiang, S.S. Li and M.L. Wu	804

Advanced Titanium Alloys

Effect of a Strong Magnetic Field on Dendritic Growth of Ti-Ni Alloy H. Chang, C.L. Huang, B. Tang, R. Hu, J.S. Li and H. Zhong	810
Preliminary Research on a New Ultra-High Strength Titanium Alloy H.L. Qu, Y.Q. Zhao, Z.S. Zhu, H. Li, L. Feng, L. Zhou and M.Q. Li	818
Research on Effects of Uneven Macrostructure to Mechanical Properties in TC21 Forging J. Li, Z.S. Zhu, X.N. Wang, Y. Fei, G.Q. Shang and L.W. Zhu	823
Quantification and Statistical Analysis of Microstructural Features in As-Cast Ti-6Al-4V Titanium Alloy X.J. Cheng, G.Q. Wu and J.Q. Zhao	828
Relationship between Intragranular α Phase Width and Microhardness of TC18 Titanium Alloy H.H. Li, G.Q. Wu, C.L. Shi and A.X. Sha	833
Relationships between Spring-Back and Microstructure of Ti-15V-3Cr-3Sn-3Al Titanium Alloy Sheet during Bending Process L.L. Li, G.Q. Wu, C.X. Liu and A.X. Sha	839

β Grain Growth Kinetics of a New Metastable β Titanium Alloy Y. Fei, X.N. Wang, Z.S. Zhu, J. Li, G.Q. Shang and L.W. Zhu	844
Research on TC4 Alloy Wire Rod Straightening Process J.C. Feng, M.H. Chen, C. Zhang and L.M. Guo	850
Phase Transformation Behavior and Mechanical Properties of Ti-Mo-Sn Alloys X.X. Chen, S. Guo and X.Q. Zhao	855
Microstructural Evolutions of a High Temperature Titanium Alloy Processed by Thermal Mechanical Treatments T. Wang, H.Z. Guo, Z.K. Yao, Z.L. Zhao, S.H. Fu and Y. Zhang	860
Effect of Sputtering Current on Growth and Microstructure for Titanium Alloy Coatings onto SiC H. Huang, M. Wen, M.J. Wang, Z.X. Li, X. Huang and C. Xie	866
Study on Combustion Behavior of TC4 and Ti40 Alloys M.Y. Huang, S.W. Xin, J.H. Ju, Y.F. Lu, Q. Li, Y.Q. Zhao and B. Wang	872
Analysis of Hot Deformation Dynamics of TC18 Titanium Alloy Q.R. Wang, A.X. Sha, X.W. Li and L.J. Huang	878
Designing Multi-Component β-Ti Alloys with Low Young's Modulus Q. Wang, X.D. Zhang, X.N. Li, C.J. Ji and C. Dong	885
Effect of Nb on the Properties of Ti-Nb Random Alloys from First-Principles M.J. Lai, X.Y. Xue, C.S. Meng, H.C. Kou, B. Tang, H. Chang and J.S. Li	890
The Effect of Cryogenic Treatment on the Microstructure and Properties of Ti-6Al-4V Titanium Alloy K.X. Gu, Z.Q. Li, J.J. Wang, Y. Zhou, H. Zhang, B. Zhao and W. Ji	899
Phase Transformation and Microstructure Evolution in Near-β Ti-7333 Titanium Alloy during Aging Q. Hui, X.Y. Xue, H.C. Kou, M.J. Lai, B. Tang and J.S. Li	904
Microstructural Evolution and Precipitation Mechanism of α-Phase in Ti-55531 Alloy Aged at High Temperature X. Zhang, Y. Chen, F.S. Zhang, J.T. Yang, Y.J. Lai, H.C. Kou, J.S. Li and L. Zhou	912
Experimental Study on Heat Treatment Processing of a New Low Cost Titanium Alloy Used in Aviation Field G.Q. Shang, X.N. Wang, Y. Fei, J. Li, Z.S. Zhu and L.W. Zhu	919
Microstructure and Tensile Properties of 1-D Forged (TiB+TiC)/Ti Composite C.J. Zhang, F.T. Kong, S.L. Xiao, L.J. Xu, Y. Chen, N.J. Deng, W. Ge and G.J. Xu	926
Microstructure and Property of a New Metastable β Titanium Alloy X.N. Wang, Y. Fei, X.H. Zhou, Z.S. Zhu, J. Li, G.Q. Shang and L.W. Zhu	932
Research on Precision Forming Technology of Titanium Alloy Sheet Metal Based on the Principle of the Stress Relaxation M.H. Chen, L.S. Xie and L. Liu	937
β Stability and Mechanical Behavior of Metastable β Type TiNb Based Alloys G.Y. Liao, S. Guo, Z.Z. Bao and X.Q. Zhao	941