F. Structural Light Alloy Materials

Session F1: Friday Afternoon, Oct. 21, 2016
Chairs: Linzhong Zhuang, Zhihui Li
Room: 5701

13:30-13:50 F-01(Keynote)
Precipitation Hardening and Intergranular Corrosion Resistance of Zn Modified 5××× Series Al Alloy
Shengli Hou¹, Di Zhang¹, Jishan Zhang¹, Linzhong Zhuang¹,²
1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing 100083, People’s Republic of China
2. TaTa Steel, 1970 CA IJmuiden, The Netherlands

13:50-14:05 F-02
Surface Characterization Techniques in Advance Material Development
Fu Chao
Wintech Nano-Technology Services Pte.Ltd

14:05-14:20 F-03
Properties and microstructure of wheel prepared by liquid die forging of new type Al-Cu alloy
Hong Xu
North University of China

14:20-14:35 F-04
Effect of EMS above Liquidus Temperature on Structure Re-finement of Al-11%Zn-3%Mg-1%Cu-0.13%Zr Alloy
Tianyang Guan, Zhifeng Zhang, Yuelong Bai, Min He
General Research Institute for Nonferrous Metals

14:35-14:50 F-05
Properties changes and fracture behavior of Cu-Ni-Si/Al-Mg-Si clad composite wire after heat treatment
Zhen Yang, Xujun Mi, Haofeng Xie, Lijun Peng
State Key Laboratory of Nonferrous Metals & Processes, General Research Institute for Nonferrous Metals

14:50-15:05 F-06
Effect of solution treatment on microstructure and mechanical properties of 7A56 aluminum alloy
Fengbin Guo¹, Baohong Zhu¹, Longbing Jin¹, Guojun Wang², Hongwei Yan¹, Xiwu Li¹, Zhihui Li¹, Yong'an Zhang¹, Baqing Xiong¹
1. State Key Laboratory of Nonferrous Metals and Processes, General Research Institute for Nonferrous Metals
2. Northeast Light Alloy Co., Ltd.

15:05-15:20 F-07
Promoted inoculation effects of Al-10Si-2Fe master alloy on primary silicon in Al-20Si alloy assisted with TiB2
Wenhui Yu, Yong Zhang, Aolei Jiang, Tingliang Yan, Hongliang Zheng, Xuelei Tian
Shandong University

15:20-15:40 Coffee Break

15:40-15:55 F-08
Effect of copper content on quench sensitivity in novel Al-Zn-Mg-Cu alloys containing high zinc content
Jinsheng Chen, Xiwu Li, Baiqing Xiong, Yongan Zhang, Zhihui Li, Hongwei Yan, Hongwei Liu, Shuhui Huang, Lizhen Yan
State Key Laboratory of Nonferrous Metals and Processes, General Research Institute for Nonferrous Metals, Beijing 100088, China

15:55-16:10 F-09
The effect of fatigue pre-deformation on the mechanical behavior of Al-4.0 wt.% Cu alloy
Qing-Shuang Song¹, Dong Han¹, Ying Yan¹, Xiao-Wu Li¹,²
1. Department of Materials Physics and Chemistry, School of Materials Science and Engineering, Northeastern University, Shenyang 110819, P.R. China
2. Key Laboratory for Anisotropy and Texture of Materials, Ministry of Education, Northeastern University, Shenyang 110819, P.R. China

16:10-16:25 F-10
Investigation on the microstructure evolution of Al-matrix in homogenized 7A56 aluminum alloy
Da Xu¹, Zhihui Li¹, Guojun Wang², Longbing Jin², Hongwei Yan¹, Xiwu Li¹, Yong'an Zhang¹, Baiqing Xiong¹
1. General Research Institute for Nonferrous Metals Beijing
2. Northeast light alloy Co., Ltd.

16:25-16:40 F-11
Fabrication of Hybrid Al Sheets with Improved Mechanical and Corrosion Properties by Roll-Bonding Process
Cha Yong LIM¹, Seong Hee LEE²
1. Korea Institute of Materials Science
2. Mokpo National University

16:40-16:55 F-12
Morphological Studies on Fe-rich Phase in Die-cast Al Alloy with Trace Additions of Mn and Cr
Zhiqiang Qiu¹, Xiaoshu Zeng¹, Xi-Xin Rao¹, Yan
16:55-17:10  F-13
Optimization of CSP process parameters for quality improvement of ADC12 alloy billets using regression analysis
Ye Wang1, Hongyu Xu1, Lianjie Niu2, Zesheng Ji1, Duo Dong3, Dongdong Zhu4
1. School of Materials Science and Engineering, Harbin University of Science and Technology, 150001, China
2. Department of Mathematics and sciences, Hebei Institute of Architecture and Civil Engineering, 075000, China
3. College of Mechanical engineering, Quzhou University, 324000, China
4. School of Materials Science and Engineering, University of Science and Technology Beijing

17:10-17:25  F-14
Effect of enhanced solution treatment on microstructure and mechanical properties of AlCuLiScAg alloy
Ruibin Yang, Feizhou Wang, Yunjie Zhang, Zhongxia Liu, Jiefang Wang
Key Laboratory of Materials Physics (Zhengzhou University), Ministry of Education, Zhengzhou, China

17:25-17:40  F-15
Fabrication of high thermal dissipation Al based composites using ultrasonic mechanical coating and armoring
J. C. Huang1, W. Y. Tsai1, Guan-Rong Huang1,2, K. K. Wang3, C. F. Chen1
1. National Sun Yat-Sen University
2. National Center for Theoretical Sciences
3. Metal Industries Research & Development Centre

Session F2: Saturday Morning, Oct. 22, 2016
Chairs: Hiromi Nagaumi, J. C. Huang
Room: 5701

08:30-08:45  F-16
Effects of A-EMS on Microstructure and Mechanical Properties of Eutectic Al-Si-Cu-Mg-Ni alloy
Yang Qiu, Zhifeng Zhang, Mingwei Gao, Yajun Luo
General Research Institute for Nonferrous Metals

08:45-09:00  F-17
Improved age hardening response of Zn and Cu modified 5xxx series Al alloy
Di Zhang, Cheng Cao, Linzhong Zhuang, Jishan Zhang
University of Science and Technology Beijing

09:00-09:15  F-18
Characterization of A390 aluminum alloy produced at different slow shot speeds using assisted vacuum high-pressure die casting
Wenbo Yu1,2, Shoumei Xiong1,2, Zhipeng Guo1,2
1. School of Materials Science and Engineering, Tsinghua University, Beijing 100084, China
2. Laboratory for Advanced Materials Processing Technology, Ministry of Education, Tsinghua University, Beijing 100084, China

09:15-09:30  F-19
The enhanced mechanical properties in an Al-Mg alloy containing nano-laminated structure
Yaojun Lin1,2, Zhibo Liu2, Zhigang Yan2
1. School of Materials Science and Engineering, Wuhan University of Technology, Wuhan, Hubei 430070, China
2. State Key Laboratory of Metastable Materials Science and Technology, Yanshan University, Qinhuangdao, Hebei 06604, China

09:30-09:45  F-20
Effect of Thermo-mechanical Treatment on Microstructure and Mechanical Properties of AlMg5Si2Mn Alloy Sheets
Yun-Soo Lee1, Joon-Hyeon Cha, Su-Hyeon Kim, Cha-Yong Lim, Hyoung-Wook Kim
Korea Institute of Materials Science

10:00-10:20  Coffee Break

10:20-10:35  F-21
Fabrication of cellular metals by gas release reaction via powder metallurgical method
Donghui Yang, Lu Jun, Jianqing Chen, Jiang Jinghua, Ma Aibin, Feng Yuan
College of Mechanics and Materials, HoHai University, Nanjing, 2111000

10:35-10:50  F-22
Production of A Dual Aluminum Alloy with Distinguished Surface Properties by Co-extrusion
Xiang Ma1, Christian J. Simensen1, Rune sthus2, Ola Jensrud3, Wilhelm Dall1, Arne Nordmark1, Hans J. Roven3
1. SINTEF Materials and Chemistry
2. SINTEF Raufoss Manufacturing AS
3. Norwegian University of Science and Technology

10:50-11:05  F-23
Effect of deformation parameters on flow behavior and microstructure of Ti-6Al-4V-0.2O alloy
Lin Xiang1, Bin Yang1, Hongchao Kou1, Jie

Shao, Jinshan Li
1. State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi’an, 710072, China
2. AVIC Beijing Aeronautical Manufacturing Technology Research Institute, Beijing, 100024, China

11:05-11:20  F-24
Studies on solid-state phase transformations in titanium alloys
Cheng Lin, Guili Yin, Aimin Zhang, Zhiwei Zhao, Yongqing Zhao
1. College of Materials Science and Engineering, Liaoning University of Technology
2. Northwest Institute for Nonferrous Metal Research

11:20-11:35  F-25
The solidification behavior and massive gamma tranformation in Ta-cotaining as-cast TiAl-Nb alloy
Keren Zhang, Rui Hu, Jieren Yang
Chairs: Yong-Tai Lee, Kechao Zhou
Room: 5701

13:30-13:50  F-26(Keynote)
Overview of Titanium R&D in Korea
Yong-Tai Lee
Kyungnam University

13:50-14:05  F-27
High cycle fatigue behavior of Ti–5Al–5Mo–5V–3Cr–1Zr titanium alloy
Chaowen Huang, Yongqing Zhao, Shewei Xin, Wei Zhou, Qian Li, Weidong Zeng
1. State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi’an, 710072, China
2. Northwest Institute for Nonferrous Metal Research, Xi’an, 710016, China

14:05-14:20  F-28
The high cycle fatigue behaviours of TC21 titanium alloy with different microstructure
changsheng Tan, Qiaoyan Sun, Lin Xiao, Yongqing Zhao, Jun Sun
1. State Key Laboratory for Mechanical Behavior of Materials, Xi’an Jiaotong University
2. Northwest Research Institute of Nonferrous Metals, Xi’an, Shaanxi

14:20-14:35  F-29
The pre-strain hardening in microscale pure titanium
Wenjuan Kou, Qiaoyan Sun, Lin Xiao, Jun Sun
State Key Laboratory for Mechanical Behavior of Materials, Xi’an Jiaotong University, Xi’an 710049, P. R. China

14:35-14:50  F-30
Effect of forging processes on microstructure and mechanical properties of high temperature titanium alloy containing erbium
Zhenqiang Wang, Bolong Li, Tongbo Wang, Zuoren Nie
Beijing University of Technology

14:50-15:10  Coffee Break

15:10-15:25  F-31
Effect of rare earth Er on the microstructure and mechanical properties in high temperature titanium alloys
Bolong Li, Tongbo Wang, Peng Han, Zhenqiang Wang, Zuoren Nie
Beijing University of Technology

15:25-15:40  F-32
A new phase transformation mechanism for homogeneous precipitation of Ti1023 in the absence of the o-phase
Pei Li, Qiaoyan Sun, Lin Xiao, Jun Sun
State Key Laboratory for Mechanical Behavior of Materials, Xi’an Jiaotong University

15:40-15:55  F-33
Precipitation behavior of secondary α phase during continuous heating in a hot-rolled near β titanium Ti-7333 alloy
Jinshan Li, Shubo Liu, Bin Tang, Hongchao Kou
State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi’an 710072, PR China

15:55-16:10  F-34
The Effect of Annealing on Microstructure and Tensile Property of Cast TG6 High-Temperature Ti-Based Alloy
Lang-ping Zhu, Jian-chong Li, Hai Nan
1. Beijing Institute of Aeronautical Materials
2. Beijing Engineering Reaserach Center of Advanced Titanium Alloy Precision Forming Technology
3. BAIMTEC MATERIAL CO., LTD.

16:10-16:25  F-35
Spark plasma semi-solid sintering: Bi-modally grained high yield strength and ductility Ti-based alloys based on the eutectic transformation
Limei Kang, Chao Yang
National Engineering Research Center of Near-net-shape Forming for Metallic Materials, South
Session F4: Sunday Morning, Oct. 23, 2016
Chairs: Xu Huang, Yongqing Zhao
Room: 5701

08:30-08:50 F-36 (Keynote)
R&D of New Ti-alloys Used for Shipbuilding
Yongqing Zhao
Northwest Institute for Nonferrous Metal Research

08:50-09:05 F-37
Tailoring precipitates for ultra stable plasticity in submicron Ti alloys
Yan Pan, Qiaoyan Sun, Lin Xiao, Jun Sun
State Key Laboratory for Mechanical Behavior of Materials, Xi’an Jiaotong University

09:05-09:20 F-38
Effect of boron on the hot deformation behaviors of Ti-2Al-9.2Mo-2Fe alloy
Rong Chen1, Songxiao Hui1, Wenjun Ye1, Dong-Geun Lee2, Yongtai Lee3
1. General Research Institute for Nonferrous Metals
2. Sunchon National University
3. Kyungnam University

09:20-09:35 F-39
Slip transmission behavior at alpha/beta interfaces and model of strengthening evaluation in TC21 alloy
Qiaoyan Sun, Changsheng Tan, Lin Xiao, Jun Sun
Xi’an Jiaotong University

09:35-09:50 F-40
A self-adjusting strengthening method by nano martensitic Transformation in Ti2448 Single Crystal Submicro-pillars
Mingda Huang1,2, Lin Xiao1, Qiaoyan Sun1, Yunzhi Wang1, Jun Sun1
1. Xi’an Jiaotong University
2. Frontier institute of science and technology, Xi’an Jiaotong University

09:50-10:10 Coffee Break

10:10-10:25 F-41
The twinning behavior of Ti-xV(x=2,4,8) alloys under quasi-static and dynamic deformation conditions
Qiaochu Wang
General Research Institute for Nonferrous Metals

10:25-10:40 F-42
Hot deformation behavior and ring rolling process of Ti-22Al-24Nb-0.5Mo powder metallurgical preform prepared by hot isostatic pressing
Zhengguan Lu, Lei Xu, Jie Wu, Xiaoxiao Cui, Rui Yang
Institute of Metal Research, Chinese Academy of Sciences

10:40-10:55 F-43
Microstructure and mechanical properties of hot-isostatically-pressed Ti-5Al-2.5Sn ELI powder compact
Ruipeng Guo1,2, Lei Xu2, Jiafeng Lei2, B.Y. Zong1, Rui Yang2
1. School of Materials Science and Engineering, Northeastern University, Shenyang 110819, China
2. Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110819, China
3. Key Laboratory for Anisotropy and Texture of Materials, Ministry of Education, Northeastern University, Shenyang 110819, China

10:55-11:10 F-44
Numerical and Experimental Study on the Counter-gravity Casting of Nb-containing Gamma TiAl Alloy
Kuan Wang, Jieren Yang, Jinshan Li, Rui Hu
Northwestern Polytechnical University

11:10-11:25 F-45
Effect of Solution Treatment on the Microstructure Development of TC18 Alloy
Zhimin Hou1,2
1. Northwestern Polytechnical University
2. Northwest Institute for Nonferrous Metal Research

11:25-11:40 F-46
Experimental Determination of Thermophysical Properties of Liquid and Solid Binary Ti–Si Alloys
Kai Zhou, Peng Lu, Wenxin Hou, Bingbo Wei
Northwestern Polytechnical University

Session F5: Sunday Afternoon, Oct. 23, 2016
Chair: Fusheng Pan
R00m: 5071

13:30-13:45 F-47
Different Precipitation Behaviors and Mechanical Property Heterogeneity of an Extruded Mg-7Y-1Nd-0.5Zr (wt.%) Alloy Bar with Cross-section of 230×140mm
Guoliang Shi, Kui Zhang, Xinggang Li, Yongjun Li, Minglong Ma, Jiawei Yuan
State Key Laboratory for Fabrication and Processing of Non-Ferrous Metals, General Research Institute for Non-Ferrous Metals, Beijing 100088, China

13:45-14:00 F-48
Effects of Zn addition on second phases and mechanical properties of Mg-8Al-2Sn wrought
alloy
Luyao Jiang\textsuperscript{1,2}, Dingfei Zhang\textsuperscript{1,2}, Chen Rong\textsuperscript{1,2}, Fei Guo\textsuperscript{1,2}, Hansong Xue\textsuperscript{1,2}, Junyao Xu\textsuperscript{1,2}, Fusheng Pan\textsuperscript{2,3}
1. Chongqing University
2. National Engineering Research center for Magnesium Alloys
3. Chongqing Academy of Science & Technology

Constitutive modeling of distortional hardening for wrought Mg alloys based on internal state variables
Baodong Shi\textsuperscript{1}, Yan Peng\textsuperscript{1}, Chong Yang\textsuperscript{1}, Fusheng Pan\textsuperscript{2}
1. Yanshan University, School of Mechanical Engineering, National Engineering Research Center for Equipment and Technology of Cold Strip Rolling
2. Chongqing University, National Engineering Research Center for Magnesium Alloys

Oxidation behavior of Mg-3.5Gd alloy by addition of Ce and the internal oxidation mechanism at high temperatures
Xiaowen Yu\textsuperscript{1}, Bin Jiang\textsuperscript{1,2}, Bo Liu\textsuperscript{1}, Fusheng Pan\textsuperscript{1,2}
1. State Key Laboratory of Mechanical Transmissions, College of Materials Science and Engineering, Chongqing University, Chongqing 400044, China
2. Chongqing Academy of Science and Technology, Chongqing 401123, China
3. Chongqing Chang-an Automobile Co., Ltd, Chongqing 400023, China

The grain refinement effect of Sn3Y5 intermetallics in the as-extruded Mg-Sn-Y alloys
Ying Zeng\textsuperscript{1}, Bin Jiang\textsuperscript{1}, GaoFeng Quan\textsuperscript{1}
1. Key Laboratory for Advanced Technologies of Materials, Ministry of Education, School of Material Science and Engineering, Southwest Jiaotong University, Chengdu 610031, China
2. National Engineering Research Center for Magnesium Alloys, Chongqing University, Chongqing 400044, China

Research on Dynamic recrystallization of Mg-8Gd-3Y-1Nd-0.5Zr Alloy during Hot Deformation
Qi-Hongna\textsuperscript{1,2}, Zhang-Zhimin\textsuperscript{1,2}, Yu-Jianmin\textsuperscript{1,2}, Yin-Xueyan\textsuperscript{1,2}, Du-Zhiyuan\textsuperscript{1,2}
1. Dept. of Material processing Engineering, North University of China, Taiyuan 030051, China
2. Engineering Technology Research Center for Integrated Precision Forming of Shanxi, Taiyuan 030051, China

Improved ductility of high-pressure die-cast Mg-xCe-yAl-0.5Mn alloys by modifying Al/Ce ratio
Chuangye Su, Xiaoqin Zeng, Li Dejiang
Shanghai Jiao Tong University

Experimental investigation and thermodynamic modeling of the Mg-Nd-Zr and Mg-Y-Zr systems
Kaiming Cheng\textsuperscript{1,2}, Jixue Zhou\textsuperscript{1}, Huoming Dong\textsuperscript{1}, Lijun Zhang\textsuperscript{2}, Yong Du\textsuperscript{1}
1. Shandong Key Laboratory of High Strength Lightweight Metallic Materials, Advanced Materials Institute, Shandong Academy of Sciences, Jinan, 250014, China
2. State Key Laboratory of Powder Metallurgy, Central South University, Changsha, 410083, China

Oxidation and pre-treatments on the elevated temperature plastic behavior of as-cast AZ80 magnesium alloys
Fei Guo\textsuperscript{1,2}, Dingfei Zhang\textsuperscript{1,2}, Luyao Jiang\textsuperscript{1,2}, Fusheng Pan\textsuperscript{2,3}
1. College of Materials Science and Engineering, Chongqing University, Chongqing 400045, China
2. National Engineering Research Center for Magnesium Alloys, Chongqing University, Chongqing 400044, China
3. Chongqing Academy of Science and Technology, Chongqing 401123, China

Effect of yttrium and pre-treatments on the elevated temperature plastic behavior of as-cast AZ80 magnesium alloys
Lingbao Ren\textsuperscript{1,2}, GaoFeng Quan\textsuperscript{1,2}, Mingyang Zhou\textsuperscript{1,2}, Wei Liang\textsuperscript{1,2}, Qi Tang\textsuperscript{1,2}, Dongyi Yin\textsuperscript{1,2}
1. Key Laboratory of Advanced Technologies of Materials, Ministry of Education, Sichuan, Chengdu, 610031, PR China
2. School of Material Science and Engineering, Southwest Jiaotong University, Sichuan, Chengdu, 610031, PR China

Effect of mish-metal on microstructures and properties of an as-extruded Mg-9Y-0.6Zr alloy
Bibo Li\textsuperscript{1,2}, Kui Zhang\textsuperscript{1}, Kaikun Wang\textsuperscript{1}, Xinggang Li\textsuperscript{1}, YongjunLi\textsuperscript{1}, Minglong Ma\textsuperscript{1}, Guoliang Shi\textsuperscript{1}, Jiawei Yuan\textsuperscript{1}
1. State Key Lab for Fabrication & Processing of Non-Ferrous Metals, Beijing Genera Research Institute for Non-Ferrous Metals, Beijing, 100088, China
2. School of Materials Science and Engineering,
High cycle fatigue behavior and microstructure evolution in Mg-6Zn-1Mn alloy
Dingfei Zhang,2, Daliang Yu,1, Fusheng Pan2,3
1. College of Materials Science and Engineering, Chongqing University
2. National Engineering Research Center for Magnesium Alloys, Chongqing University
3. Chongqing Academy of Science and Technology

08:50-09:05 F-63
Ageing behavior of Mg-8.2Gd-3.8Y-1Zn-0.4Zr alloy processed by high pressure torsion (HPT)
Wanting Sun1, Mingyi Zheng1, Xiaoguang Qiao1, Nong Gao2, Marco J. Starink2, Chao Xu3, Shigeharu Kamado1,3
1. Harbin Institute of Technology
2. University of Southampton
3. Nagaoka University of Technology

09:05-09:20 F-64
Effect of Ca/Al ratio on microstructure and mechanical properties of Mg-Al-Ca-Mn alloys
Zitong Li1, Xiaodong Zhang1, Mingyi Zheng1, Xiaoguang Qiao1, Kun Wu1, Chao Xu2, Shigeharu Kamado3
1. School of Materials Science and Engineering, Harbin Institute of Technology
2. Department of Mechanical Engineering, Nagaoka University of Technology

09:20-09:35 F-65
Application and Development of Gadolinium and Yttrium in Heat Resistant Magnesium Alloy
Nana Wang1,2, Jixue Zhou1,2, Lin Yuan3
1. Shandong Key Laboratory for High Strength Lightweight Metallic Materials, Advanced Materials Institute, Shandong Academy of Sciences, Jinan 250014, China
2. Shandong Engineering Research Center for Lightweight Automobiles Magnesium Alloys, Advanced Materials Institute, Shandong Academy of Sciences, Jinan 250014 China
3. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 15000

09:35-09:50 F-66
Assessments of Mg-containing ternary systems within the multicomponent magnesium alloy database, TCMG4
Hai-Lin Chen, Shan Jin, Qing Chen, Johan Bratberg
Thermo-Calc Software AB

Poster
F-P01
Effect of trace element Hf on precipitation process
and recrystallization resistance in Al-Er-Zr alloys
Tonghui Liu, Shengping Wen, Yong Liu, Erqing
Zhang
Beijing University of Technology

F-P02
Dry sliding wear of the microalloying
Al-10Sn-4Si-1Cu alloy with Er and Zr
Juuyan Liang, Xiaolan Wu, Wei Wang, Shengping
Wen, Kunyuan Gao, Hui Huang, Zuoren Nie
Beijing University of Technology

F-P03
Hot deformation behavior and processing map of
aluminum alloy 5E61
Ya Liu, Hui Huang, Ran Liu, Shengping Wen, Xiaolan
Wu, Kunyuan Gao, Zuoren Nie
Beijing University of Technology

F-P04
Microstructure, mechanical and corrosion
properties of 5E61 alloy
Peiliang Liu, Xiaolan Wu, Shengping Wen, Hui
Huang, Kunyuan Gao, Zuoren Nie
School of Materials Science and Engineering, Beijing
University of Technology, Beijing 100124, China

F-P05
The effect of pre-aging temperature on the
mechanical properties and corrosion behavior of a
new type Al-Zn-Mg-Cu-Er-Zr alloy
Juntai Lu, Hui Huang, Hao Wu, Shengping Wen,
Kunyuan Gao, Zuoren Nie
School of Materials Science and Engineering, Beijing
University of Technology, Beijing 100124, China

F-P06
Effect of the erbium content on the microstructure
and mechanical property of 6061 aluminum alloy
wenjian Lv
Beijing University of Technology

F-P07
The effect of homogenization temperature on the
microstructure and property of 6061 Aluminum
alloy with Erbium
Shasha Dong, Bolong Li, Wenjian Lv, Peng Qi,
Zuoren Nie
Beijing University of Technology

F-P08
Effects of electromagnetic stirring frequency on the
microstructure and mechanical properties of
Al-7Si-0.42 Mg-0.1 Cu alloy by semi-solid
processing
Peng Qi, Bolong Li, Wenjian Lv, Tongbo Wang,
Zuoren Nie
Beijing University of Technology

F-P09
Rapid solidification of ternary Al-Cu-Ag alloys
under free fall condition
Fuping Dai, Wei Zhai, Bingbo Wei
Department of Applied Physics, Northwestern
Polytechnical University, Xi'an 710072, China

F-P10
In situ observation Zr poisoning effect in Al alloys
inoculated by Al-Ti-B
Yiwang Jia, Da Shu
Shanghai Key Laboratory of Advanced
High-temperature Materials and Precision Forming,
Shanghai Jiao Tong University

F-P11
Superplastic Deformation Behavior of Fine
Grained 1420 Al-Li Alloy with Pulsed Current
Yanling Zhang1,2,3, Hongliang Hou1,2,3, Jing Bi1,2,3
1. Beijing Aeronautical Manufacturing Technology
Research Institute
2. Aeronautical Key Laboratory for Plastic Forming
Technologies
3. Beijing Key Laboratory of digital plasticity forming
technology and Equipment

F-P12
Research on deformation characteristics of
butterfly die extrusion process of aluminum
profiles
Lei Cheng, Guojie Huang, Wei Xiao, Jianwei Wang
State Key Laboratory of Nonferrous Metals and
Processes, General Research Institute for Nonferrous
Metals, Beijing 100088, China

F-P13
Effect of cyclic pre-deformation on the tensile
behavior of fcc metals with different stacking fault
energies
Ming-Jie Niu1, Dong Han1, Ying Yan1, Meng Lu1,2,3
1. Department of Materials Physics and Chemistry,
School of Materials Science and Engineering,
Northeastern University, Shenyang 110819, P.R.
China
2. Key Laboratory for Anisotropy and Texture of
Materials, Ministry of Education, Northeastern
University, Shenyang 110819, P.R. China

F-P14
Effect of solution treatment on microstructure and
mechanical properties of Al-Zn-Mg-Er-Zr alloy
Hao Wu
Beijing University of Technology

F-P15
Research on diffusion bonding of 1420 Al-Li alloys
assisted by electro- magnetic force
Fan Wu\textsuperscript{1,2}, Wenlong Zhou\textsuperscript{1}, Yujie Han\textsuperscript{2}, Tao Niu\textsuperscript{2}, Hongliang Hou\textsuperscript{2}
1. School of Material Science and Engineering, Dalian University of Technology
2. Beijing Aeronautical Manufacturing Technology Research Institute

F-P16
Influence of Yb modification on the microstructure and mechanical property of an A356.2 aluminum alloy
shaochen zhang
University of Jinan

F-P17
Study on the Microstructure of As-Cast 7085 Aluminum Alloy During Homogenization
Yuwen Shao, Yi Liu, Jinfeng Leng, Kun Zhu, Zemei Liu, Chenxue Li
Material Science and Engineering, University of Jinan

F-P18
Effect of alloy composition on microstructure evolution and mechanical properties of AA6010 alloy
Jin Fu\textsuperscript{1,2}, Xiaohui Li\textsuperscript{1}, Wenjun Qi\textsuperscript{1}, Yajiang Li\textsuperscript{2}
1. Guangdong Institute of Materials and Processing, Guangdong Academy of Sciences, Guangzhou 510650, China
2. College of Materials Science and Engineering, Shandong University, Jinan 250061, China

F-P19
Investigation on TiN-Al composite coatings of A356 alloy by mechanical alloying
Zhengui Yuan, Luyao Pan, Shan Jiang, Min Zuo
University of Jinan

F-P20
The effect of initial micro-structures on deformation behaviors of commercial pure titanium
Tongbo Wang, Bolong Li, Mian Li, Zuoren Nie
Beijing University of Technology

F-P21
Transmission electron microscopy investigation of twin boundary and shear band structures in dynamically deformed gamma-TiAl intermetallic compound
Guang Yang\textsuperscript{1,2}, Kui Du\textsuperscript{2}, DongSheng Xu\textsuperscript{1}, Yang Qi\textsuperscript{1}, HengQiang Ye\textsuperscript{1,2}
1. School of Materials Science and Engineering, Northeastern University, Shenyang 110819, People’s Republic of China
2. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, People’s Republic of China
3. Division of Titanium Alloys, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, People’s Republic of China

F-P22
Hot deformation behavior and microstructural evolution characteristics of an as-extruded Ti-44Al-5V-1Cr alloy containing the beta phase
Hongwu Liu\textsuperscript{1,2}, Fan Gao\textsuperscript{2}, Zhenxi Li\textsuperscript{2}, Qingfeng Wang\textsuperscript{1}
1. State Key Laboratory of Metastable Materials Science and Technology, Yanshan University
2. Titanium Alloys Laboratory, Beijing Institute of Aeronautical Materials

F-P23
Variant selection of $\{332\}$ primary and secondary twinning in beta-type Ti-Mo alloy
Xueyin Zhou, Xiaohua Min, Congqian Cheng, Jie Zhao
School of Materials Science and Engineering, Dalian University of Technology, 116024, P.R.China

F-P24
Effect of electron beam melting parameters on microstructure and element evaporation of Ti-Mo alloys
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Dynamic compression properties of Ti-6Al-4V titanium alloy extruded sections
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Microstructure and mechanical properties of Ti-6Al-2Sn-4Zr-2Mo-1Nb-0.2Si high-temperature titanium alloy plate
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Effect of oxygen on $\beta$ to $\omega$ phase transformation kinetics in Ti-Mo alloys
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Hot Deformation Behavior and Processing Map of a New High-temperature Titanium Alloy
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F-P29
The effect of annealing on microstructure and tensile properties of Ti-6.5Al-2Sn-4Zr-2Mo-2Nb-1W-0.2Si alloy
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Effect of TiB on α phase nucleates and grows up in the Ti-6Al-4V alloy
Yang Yu, Xujun Mi, Songxiao Hui, Wenjun Ye
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Microstructural evolution and phase transformation in gas atomized Ti-48Al powders
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Effect of initial microstructures on hot deformation behavior of Ti-6Al-4V alloy
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High Temperature Titanium Alloys with Increased Strength and Structural Stability
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Improved formability of magnesium alloy sheet by co-extrusion processing
Junjie He, Bin Jiang, Xu Jun
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Effect of the precipitated phases on corrosion behavior of Mg-Y-Nd ternary alloy
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Synergistic Effect of MoS2 and SiO2 as Nanoadditives Enhancing the Tribological Properties for Magnesium Alloy–Steel Contacts
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Influence of initial microstructure on the hot working flow stress of Mg–3Al–1Zn
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Influence of micro-arc oxidation on mechanical properties of AZ61 magnesium alloy extruded sheet
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Protective ability of graphite powders on molten AZ91D magnesium alloy
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The microstructure evolution of the Mg-3Zn-0.5Er alloy during hot rolling
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Effects of Mn addition on the microstructure and mechanical properties of extruded Mg-4Zn-2Al-2Sn-0.6Mn alloy
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F-P42
The evolution of weak connection of FSW joints and active control by ultrasonic and heat pipe
Maoyou Xu, Sheng Lu, Jun Chen, Aoyun Shen
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Effect of graphite powder amount on the surface films formed on molten AZ91D magnesium alloy covered by graphite powders
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Microstructure and mechanical property of a Mg-Gd-Y-Zn-Zr alloy processed by 8-pass equal channel angular pressing
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High Strength Mg94Zn2.4Y3.6 Alloy with Long Period Stacking Ordered Structure Prepared by Near-rapid Solidification Technology
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Effect of cooling rate on the microstructure of Mg-8Gd-1Er as-cast alloy
Yue Zhang, Wenbo Du, Xiaobing Zheng, Ke Liu, Zhaohui Wang, Shubo Li, Xian Du
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The microstructure and creep behaviors of cast Mg-Zn-Er alloys
Ruijing Li, Shubo Li, Ke Liu, Zhaohui Wang, Xian Du, Wenbo Du
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Sol-gel method to ceria coatings on AZ91 magnesium alloy
Huimin Han, Dantong Wang, Huaqian Yu, Min Zuo
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F-P49
High-strength Mg-Zn-Mn-Sn wrought alloy
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Study on the material flow of ultrasonic friction stir welding of magnesium alloy
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Simulation of dynamic recrystallization of AZ31 magnesium alloy during hot deformation based on a modified cellular automaton
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Effect of aging treatment on the microstructure and thermal conductivity of Mg-12Gd alloy
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Diffusion bonding of Ti-45Al-7Nb-0.3W alloy by spark plasma sintering
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Experimental study on the dynamic tensile behavior of Ti-47Al-2Nb-2Cr-0.2W at elevated temperatures
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Characterization of fatigue properties of powder metallurgy titanium alloy
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