

**Tentative Program of IIW 2017 International Conference
(2017.06.11)**

**Opening, Portevin & Plenary Lectures: Auditorium
9:00-11:50, Thursday, 29th June, 2017**

9:00-9:05	Opening Address Zhiling TIAN (P.R. China) Chair, IIW2017 IC Committee
9:05-9:10	Welcome Address Gary B. MARQUIS (FINAND) President, IIW
9:10-10:10	Portevin Lecture: Additive manufacturing based on welding/joining technologies Prof. Dr. Qiao GUAN (P.R. China)
10:10-10:30	<i>Coffee Break</i>
10:30-11:10	Plenary Lecture: Further appreciation of acicular ferrite microstructure Dr. Hee Jin KIM (Republic of Korea)
11:10-11:50	Plenary Lecture: Aiming for the perfect weld---get connected to the future of welding Mr. Stephen EGERLAND (Austria)
11:50-13:00	<i>Lunch</i>

Topic A: Automation of Welding and Joining Process

Session A1: Room 3B, Level 3 13:00-15:00, Thursday, 29th June, 2017 Chairs: Xiaoqi CHEN (P.R. China), Wenhang LI (Canada)	
13:00-13:25	Keynote: Development of wire-arc additive manufacturing in Australia John NORRISH , University of Wollongong, Australia
13:25-13:45	Invited: Real time detection of weld penetration with laser vision in gas tungsten arc welding Ding FAN , Lanzhou. University of Technology, P.R. China
13:45-14:05	Invited: Qualitative and quantitative analyses of welding current's influences on the shape and size of TIG arc by high-speed digital image capturing and processing Zhiming ZHU , Tsinghua University, P.R. China
14:05-14:17 A033	The new development system of the arc welding machines and technologies A. VLADIMIROV , K. KORMILICIN, P. TRAVKIN, A. TURKOVSKY. Technological Power Sources Manufacturing Ltd, Russia
14:17-14:29 A060	Design of laser cladding head to control angle of powder feeder Chan Gyu KIM , Sang Eun SONG, Young Tae CHO, Yoon-Gyo JUNG. Changwon National University, Republic of Korea
14:29-14:41 A047	Robust joining of Ti ₂ AlNb alloy using Ti-Ni and Ti-Ni-Nb interlayers: microstructure characterization and mechanical properties Zhenwen YANG , Xiaoqiang CAI , Ying WANG. Tianjin University, P.R. China
14:41-15:53 A039	Butt jointing of bimetallic sheets by the laser-MAG series welding Ningnian GOU , Jianxun ZHANG, Heping WU. Xi'an Jiaotong University, P.R. China
15:00-15:15	<i>Coffee Break</i>
Session A2: Room 3B, Level 3 15:15-17:20, Thursday, 29th June, 2017 Chairs: Jian CHEN (USA), Guohong MA (P.R. China)	
15:15-15:40	Keynote: Recent developments in real-time monitoring and control of weld joint penetration Yuming ZHANG , University of Kentucky, USA
15:40-16:00 A038	Invited: Prediction of welded structures distortion due to straightening using linear inherent strain method Hector RUIZ , Naoki OSAWA, Hidekazu MURAKAWA, Sherif RASHED. Osaka University, Japan
16:00-16:20	Invited: In-situ measurements of weld pool dynamics and strain-stress evolution in heat affected zone for improving weld quality Jian CHEN , Oak Ridge National Laboratory, USA
16:20-16:324 A010	Analysis of rotating tungsten during GTA welding process for 5A06 aluminum alloy Jiang YU , Hongtao ZHANG, Bo WANG, Changming QU, Zidong LIN. Harbin institute of Technology at Weihai, P.R. China
16:32-16:44 A022	Investigation on dynamic behaviors of bubble evolution in underwater wet flux-cored arc welding Jianfeng WANG , Qingjie SUN, Huanyao ZHAO, Laijun WU, Jicai FENG. Harbin Institute of Technology, P.R. China
16:44-16:56 A023	Comparative study on processing property between CWW EGW and single wire EGW Yong CHEN , Chen-fu FANG, Zhi-dong YANG, Kai QI, Bin LIU, Yu GAO. Jiangsu University of Science and Technology, P.R. China
16:56-17:08 A029	Preliminary research to machine-human collaborative GTAW welding process Shengnan GAI , Ning HUANG, Yuming ZHANG, Shujun CHEN. Beijing University of Technology, P.R. China
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session A3: Room 3B, Level 3 8:20-10:15, Friday, 30th June, 2017 Chairs: Hao LU (P.R. China), Xizhang CHEN (P.R. China)	
8:20-8:45	Keynote: Intelligent weld manufacturing: role of integrated computational welding engineering Zhili FENG , ORNL, USA
8:45-9:05	Invited: The Characteristic and simulation of ultrasonic-assisted arc welding Hao LU , Shanghai Jiao Tong University, P.R. China
9:05-9:25	Invited: CAD based automated offline programming for low volume robotic welding applications Zengxi PAN , University of Wollongong, Australia

9:25-9:37 A017	Research on arc length control strategy for pulsed gas metal arc welding process Qiang WANG , Bojin QI, Baoqiang CONG, Mingxuan YANG, Zhenshen CUI. Beihang University, P.R. China
9:37-9:49 A020	Single pass laser-MIG hybrid welding of 8-mm thick pure copper (T2) without preheating: microstructure and properties Jiannan YANG , Linjie ZHANG. Xi'an Jiaotong University, P.R. China
9:49-10:01 A021	Laser welding characteristics of dissimilar metals AZ31B Mg alloy to Ti-6Al-4V alloy Caiwang TAN , Kaiping ZHANG, Fuyun LIU, Bo CHEN, Xiaoguo SONG, Jicai FENG. Harbin Institute of Technology at Weihai, P.R. China
10:01-10:13 A032	Role of laser power modulation in the welding process of highly reflective materials Jie NING , Linjie ZHANG, Qinglin BAI, Jiannan YANG. Xi'an Jiaotong University, P.R. China
10:15-10:30	Coffee Break
Session A4: Room 3B, Level 3 10:30-12:30, Friday, 30th June, 2017 Chairs: Xiangdong JIAO (P.R. China), Yu SHI (P.R. China)	
10:30-10:55	Keynote: Integration and qualification of technology for robotic welding Wei ZHOU . Nanyang Technological University, Singapore
10:55-11:15	Invited: Ripple of welding pool—sensing, analysis and application Yu SHI . Lanzhou University of Technology, P.R. China
11:15-11:35	Invited: Optimisation of the corrosion resistance of friction stir welds in high strength aluminum alloys Hua ZHANG , Beijing Institute of Petrochemical Technology, P.R. China
11:35-11:47 A004	Microstructure, chemical composition and local corrosion behaviour of friction stud welding joint Huijuan MA, Yanhong GU , Hui GAO, Xiangdong JIAO, Juntie CHE. Beijing Institute of Petrochemical Technology, P.R. China
11:47-11:59 A011	Influence of helium content in shielding gas on metal melting characteristics for narrow gap GMA welding Xiaoyu CAI , Chenglei FAN, Sanbao LIN, Chunli YANG. Harbin Institute of Technology, P.R. China
11:59-12:11 A012	Pulsed ultrasonic wave assisted GMAW welding Chenglei FAN , Lei ZHOU, Chunli YANG, Sanbao LIN, Weifeng XIE. Harbin Institute of Technology, P.R. China
12:11-12:23 A027	Study on properties of laser welded joint of 304 stainless steel used in nuclear power plant Jingvao CHEN , Jijin XU, Yi DUAN, Chun YU, Junmei CHEN, Hao LU. Shanghai Jiao Tong University, P.R. China
12:23-12:35 A043	Analysis of weld magneto-optical image noise characteristics Congyi WANG , Xiangdong GAO, Erjuan XU, Deyong YOU. Guangdong University of Technology, P.R. China
12:30-13:10	Lunch
Session A5: Room 3B, Level 3 13:10-15:10, Friday, 30th June, 2017 Chairs: Guangjun ZHANG (P.R. China), Junmei CHEN (P.R. China)	
13:10-13:30	Invited: Mobile tool cart application using leap motion in the factory environment Shengnan GAI , Beijing University of Technology, P.R. China
13:30-13:50	Invited: Recent developments in non-contact permanent magnetic absorbed wall climbing welding robot Yonghua CHEN, Zhenguo SUN , Qiang CHEN. Tsinghua University, P.R. China
13:50-14:02 A002	Study on mechanism and process of joining polymer material ABS and Q235 steel by resistance riveting Changqing ZHANG , Guangming LV, Shengtian BAI. Lanzhou University of Technology, P.R. China
14:02-14:14 A013	The stability of laser-MIG hybrid welding process with filler wire Yunfeng CHANG, Zhen LEI, Xuyou WANG, Fujia XU, Rong LI. Harbin Welding Institute, P.R. China
14:14-14:26 A016	Study on the regular variation between density characteristics of plume area signal and laser welding states Qian SUN , Wei WANG, Ruisheng HUANG, Xiaoyu LI, Xuyou WANG. Harbin welding institute, P.R. China
14:26-14:38 A019	Microstructure and mechanical properties of a linear friction welded beta titanium alloy joint Qing YE , Xiawei YANG, Xinyu WANG, Wenya LI, Tiejun MA. Northwestern Polytechnical University, P.R. China
14:38-14:50 A030	Laser-MIG hybrid welding for A6N01S-T5 aluminum alloy profile of high-speed train Zhen LEI , Xiaopeng WANG, Xiaoyu LI, Fujia XU, Ren WANG, Yunfeng CHANG. Harbin Welding Institute, P.R. China
14:50-15:02 A035	Welding techniques and quality evaluation on zirconium-steel clad plates for large-scale reactors Lei WU , Jun CUI, Haibo ZHANG, Kuijing SONG, Peisong DU. Hefei General Machinery Research Institute, P.R. China

15:02-15:14 A067	An investigation on microstructure and mechanical properties of laser welded 9Cr steel and Inconel 625 nickel superalloy Hongyu ZHU, Pulin NIE , O.A. OJO, Shangfei QIAO, Xiaojuan WANG, Zhuguo LI, Jian HUANG. Shanghai Jiao Tong University, P.R. China
15:15-15:25	<i>Coffee Break</i>
Session A6: Room 3B, Level 3 15:25-17:20, Friday, 30th June, 2017 Chairs: Ding FAN (P.R. China), Huabin CHEN (P.R. China)	
15:25-15:45	Invited: Development of vision technologies on intelligentized arc welding process Huabin CHEN , Shanghai Jiao Tong University, P.R. China
15:45-16:05	Invited: Underwater flux cored arc cutting method Wenhong LI , Jiangsu University of Science and Technology, P.R. China.
16:05-16:17 A015	Droplet rotation phenomenon and spatter generating in underwater wet welding using flux cored wire Changsheng XU , Ning GUO, Yongpeng DU, Hao CHEN, Yunlong FU, Jicai FENG. Harbin Institute of Technology, P.R. China
16:17-16:29 A036	Influence of alloy elements on microstructure and mechanical properties of Al/steel dissimilar joint by laser welding/brazing Jin YANG , Zhishui YU, Yulong LI, Hua ZHANG, Wei GUO, Norman ZHOU. Shanghai University of Engineering Science, P.R. China
16:29-16:41 A041	Application and development of friction stir welding on railway rolling stock Xinmeng ZHANG , Guangzhong HE. Changchun Railway Vehicles Co., Ltd, P.R. China
16:41-16:53 A046	Infrared visual detection algorithm for swing arc narrow gap welding wire position Jie ZHU , Yujia CHEN, Su NA, Guoxiang XU, Jiayou WANG. Jiangsu University of Science and Technology, P.R. China.
16:53-17:05 A065	Experimental validation of welding process specification for Gas Metal Arc Welding (GMAW) process using a semiautomatic welding articulator Chetan A. SOMANI , D. I. LALWANI. SVNIT, Surat, India
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40 Friday, 29th June, 2017	
PA1 A001	Designing of MAG green welding inverter based on DSP Chuntian LI , Yi LUO. Chongqing University of Technology, P.R. China
PA2 A003	Researches on factors affecting the laser brazing welding quality Zhuxin ZHOU , Ye ZHANG, Donghao TANG, Dengxiang PU, Jizhu ZHANG, Yingjie XIANG. SIAC VW, P.R. China
PA3 A006	Investigation of lap laser welding of stainless steel railway vehicle Hongxiao WANG , Chunsheng WANG, Guangzhong HE, Wenwen GAO. Changchun Railway Vehicles Co., Ltd, P.R. China
PA4 A007	Research on underwater wet welding metal transfer and arc stability under hyperbaric atmosphere Xianghua SHI , Ning GUO, Hao CHEN, Changsheng XU, Xiangzhong SHI, Jicai FENG. Harbin Institute of Technology, P.R. China
PA5 A008	Development and parametric study of a single layer gas-assisted underwater laser welding Xiangzhong SHI , Ning GUO, Xiao XING, Sixiang ZHAO, Xianghua SHI, Jicai FENG. Harbin Institute of Technology, P.R. China
PA6 A009	Effect of different filler wires on weld formation for fiber laser welding 6A02 aluminum alloy Fei XU , Li CHEN, Wei LU and Enguang HE. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PA7 A014	The underwater welding of assisted with alternating transverse magnetic-field of 304 stainless steel Huanyao ZHAO , Laijun WU, Jianfeng WANG, Qingjie SUN, Jicai FENG. Harbin Institute of Technology at Weihai, P.R. China
PA8 A024	Magneto-optical imaging feature extraction of micro-gap weld joint in nonuniform excitation magnetic field Yanfeng LI , Xiangdong GAO, Tingyan CHEN, Yanxi ZHANG, Yaowu SONG. Guangdong University of Technology, P.R. China
PA9 A031	Prediction of strength for resistance spot welding of 1.5GPa grade steels Gu-Cheol KIM , Young-Min KIM, Dong-Cheol KIM, Mun-Jin KANG, Je-Hoon OH. Korea Institute of Industrial Technology, Republic of Korea
PA10 A034	The study of improvement in resistance spot weld strength for 1.5GPa grade steels by using waveform control Geun-Ho JEONG , Young-Min KIM, Dong-Cheol KIM, Mun-Jin KANG, Se-Hun RHEE. Hanyang University, Republic of Korea
PA11 A037	Comparative study on successive and simultaneous double-sided laser beam welding of AA6056-AA6156 aluminium alloy T-joints for aircraft fuselage panels Z.B. YANG , W. TAO, P. ZHU, Y.X. WANG, Y.B. CHEN, C.Y. SHI. Dalian Jiaotong University, P.R. China

PA12 A042	Study on the process of TIG-arc-induced MIG arc ignition Y. Y. TANG , Z. M. ZHU, Z. Y. YANG, Y. F. YU. Tsinghua University, P.R. China
PA13 A045	Influence of welding parameters on weld formation and microstructure of fiber laser beams welded T-Joint of aluminium lithium alloy Enguang HE , Li CHEN, Kun LUO. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PA14 A048	Joining of SiC by induction heating ignited combustion synthesis of Ti-Si-C ternary system Shaohua HAN , Dingqi XUE, Xiaowei XU. Fuzhou University, P.R. China
PA16 A005	Flow pattern and velocity of liquid nugget during aluminum alloy resistance spot welding by using tracer particle method Rui DUAN , Yonghong SI, Zifang LIU, Shijie ZHOU, Chen WEI, Wen LIU, Yang LI. Tianjin Special Equipment Inspection Institute, P.R. China
PA17 A051	Research on expert welding system for saddle-shaped seam welding Na DONG , Xiao YANG, Zhongxi SHENG, Jun FU, Yi CHEN. China Dongfang Electric Corporation R&D Center, P.R. China
PA18 A052	Auto-GTA field welding technique for ultra-supercritical steam turbine valve hard-facings Shangfei QIAO , Yuming DING, Wei QUAN, HaiXing ZHAO. Shanghai Turbine Plant of Shanghai Electric Power Generation Equipment, P.R. China
PA19 A053	Research of robot welding system for short pipe joint of boiler header Yi CHEN , Zhong Xi SHENG, Xiao YANG, Jun FU. China Dongfang Electric Corporation R&D Center, P.R. China
PA20 A054	Dual-beam laser keyhole welding of dissimilar steel/aluminum alloy lapped joint Boxu CHEN , Li CUI, Li CHEN, Dingyong HE. Beijing University of Technology, P.R. China
PA21 A055	Study on inner side laser lap welding of mechanical bonded 316/Q235B bimetallic oil pipes Jiangzhe LIU , Linjie ZHANG. Xi'an Jiaotong University, P.R. China
PA22 A056	The effects of welding speed on the microstructure and properties of molybdenum alloy joint achieved by laser welding Junyu PEI , Linjie ZHANG, Xi'an Jiaotong University, P.R. China
PA23 A057	The heat pattern evolution of rotary friction welded joint corresponding to normal stress distributions Feng JIN , Jinglong LI, Haoge LI, Zhongxiang LIAO, Xun LI, Jiangtao XIONG. Northwestern Polytechnical University, P.R. China
PA24 A058	The effects of welding parameters on the interaction between fiber laser and stainless steel based on 3D reconstruction Yan CAI , Haokun HENG, Fang LI, Xueming HUA. Shanghai Jiao Tong University, P.R. China
PA25 A059	Effect of rotation speed on friction behavior of rotary friction welding of aluminum alloy Xun LI , Jinglong LI, Zhongxiang LIAO, Feng JIN, Xujing NAN, Jiangtao XIONG. Northwestern Polytechnical University, P.R. China
PA26 A062	Microstructures and mechanical properties of OFC joint by electron beam welding Zhitao HUANG , Jinwei LI, Xun DING. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PA27 A063	Microstructures of TC17+Ti60 dissimilar titanium alloy joint by electronic beam welding Jinwei LI , Zhiyong CHEN, Zhitao HUANG. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PA28 A064	Intelligent penetration control of thin-plate GTAW process based on arc voltage feedback Yongchao CHENG , Jun XIAO, Shujun CHEN, Hongyu TIAN, Yu LEI. Beijing University of Technology, P.R. China
PA29 A066	A novel hybrid triple-arc welding process P.F. HUANG . P.R. China

Topic B: Simulation in Welding

Session B1: Room 3C+3D, Level 3 13:00-15:00, Thursday, 29th June, 2017 Chairs: Chuansong WU (P.R. China), P. F. MENDEZ (Canada)	
13:00-13:25 B067	Keynote: Understanding of welding arcs through visualizations of phenomena Manabu TANAKA , Osaka University, Japan
13:25-13:45 B046	Invited: Application of numerical simulation of arc welding processes shown by different examples M. HERTEL , S. JÄCKEL, M. TRAUTMANN, U. FÜSSEL. Technische Universität Dresden, Germany
13:45-14:00 B009	A methodology for characterizing formation tendency of humping defect in high-speed GTAW X. M. MENG , G. L. QIN, Z. D. ZOU. Shandong University, P.R. China
14:00-14:15 B030	Weldability analysis of Q+T and TMCP high strength steels by physical simulation M. GÁSPÁR , R. P. S. SISODIA. University of Miskolc, Hungary
14:15-14:30 B066	The fluid flow simulation of dual laser-beam bilateral synchronous welding for Al-alloy aircraft panel structure Yun LIU , Xiaohong ZHAN, Haisong YU, Ling XIA. Nanjing University of Aeronautics and Astronautics, P.R. China
14:30-14:45 B031	Simulated CCT diagram of the heat affected zone of API-X65 pipeline steel with the aid of dilatometric analysis I.K. NURUDDIN , S. GANGULY, D. YAPP. Jubail Industrial College, Saudi Arabia
14:45-15:00 B012	Numerical simulation of free droplet transfer based on negative pulse induction method in rich CO ₂ arc welding Hongyan WANG , Guangjun ZHANG. Harbin Institute of Technology, P.R. China
15:00-15:15	<i>Coffee Break</i>
Session B2: Room 3C+3D, Level 3 15:15-17:20, Thursday, 29th June, 2017 Chairs: M. TANAKA (Japan), Wei ZHANG (USA)	
15:15-15:40 B050	Keynote: Attempting the impossible: predicting welding using engineering expressions Patricio F. MENDEZ , University of Alberta, Canada
15:40-16:00 B043	Invited: Visualization of the metal transfer and the arc plasma behavior in GMAW by numerical simulation Yosuke OGINO , Yoshinori HIRATA, Satoru ASAI. Osaka University, Japan
16:00-16:20 B039	Invited: Structural welding simulation – perspectives and needs for industrial implementation Andreas PITTNER , Nicolas HÄBERLE, Cagtay FABRY, Michael RETHMEIER. Federal Institute for Materials Research and Testing, Germany
16:20-16:35 B065	Temperature field of laser melting deposition process on the invar alloy substrate Xiaohong ZHAN , Yao MENG, Cailin ZHANG, Junjie ZHOU. Nanjing University of Aeronautics and Astronautics, P.R. China
16:35-16:50 B034	Analysis of temperature field around moving molten pool using boundary element method V.A. KARKHIN, O.V. PANCHENKO , P.N. KHOMICH, S. Yu. IVANOV, A.M. LEVCHENKO. Peter the Great St. Petersburg Polytechnic University, Russia
16:50-17:05 B013	The phase field model for simulating gas metal arc welding based on the energy of interface Yongyue JIANG , Yunjie Bao, Li LI, Zhijiang ZHAO. Beijing Time Technologies Co., Ltd., P.R. China.
17:05-17:20 B057	A new analytical metal transfer model for Gas Metal Arc Welding Minseok KANG, Adeel IKRAM, Hyun CHUNG . KAIST, Republic of Korea
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session B3: Room 3C+3D, Level 3 8:20-10:20, Friday, 30th June, 2017 Chairs: O. LISNYI (Germany), M. SHIGETA (Japan)	
8:20-8:45 B047	Keynote: Simulation of deformation and fracture behaviors in resistance spot weld of advanced high-strength steel Andrea PEER, Ying LU, Tim ABKE, Menachem KIMCHI, Wei ZHANG . The Ohio State University, USA
8:45-9:05 B045	Invited: CFD welding simulation and its application Jason CHEON , Sang-Woo HAN, Wenjun GE, Suck-Joo NA. KAIST, Republic of Korea
9:05-9:20 B007	Oscillation patterns of the weld pool surface in pulsed TIG welding Jiankang HUANG , Jing HE, Maohong YANG, YuMing ZHANG, Yu SHI, Ding FAN. Lanzhou

	University of Technology, P.R. China
9:20-9:35 B025	Prediction of residual stresses after sequential processes welding and machining Nihat AKKUS, Isik CETINTAV , Yilmaz CAN. Marmara University, Turkey
9:35-9:50 B024	Numerical study of keyhole-induced porosity formation mechanism in laser welding of aluminum alloy and steel Lijin HUANG , Xueming HUA, Dongsheng WU, Zhao JIANG, Fang LI. Shanghai Jiao Tong University, P.R. China
9:50-10:05 B054	Distributions of microstructure and residual stress in austenitic stainless steel canisters in dry storage of spent fuel Zhenzhen YU , Xin WU, Scott GORDON, David OLSON, Stephen LIU, Charles BRYAN, Eric SCHINDELHOLZ, David ENO, Zeev SHAYER. Colorado School of Mines, USA
10:05-10:20 B071	Nanoscale structures of interfacial reaction layers between molten aluminum and solid steel based on thermal physical simulation Shuhai CHEN, Dawei YANG, Jian YANG, Jihua HUANG, Xingke ZHAO. University of Science and Technology Beijing, P.R. China
10:20-10:30	Coffee Break
Session B4: Room 3C+3D, Level 3 10:30-12:30, Friday, 30th June, 2017 Chairs: A. PITTNER (Germany), M. HERTEL (Germany)	
10:30-10:55 B051	Keynote: Numerical investigation of heat input distribution in the cathode area for gas-metal arc welding O. MOKROV, O. LISNYI , M. SIMON, U. REISGEN. RWTH Aachen University, Germany
10:55-11:15 B044	Invited: Simulation of ambient gas entrainment into a thermal plasma flow Masaya SHIGETA , Manabu TANAKA. Osaka University, Japan
11:15-11:30 B014	A volumetric gauss heat source and parameter selection for laser welding Z. Z. XU , P. P. SUN, J. X. ZHANG. Xi'an Jiaotong University, P.R. China
11:30-11:45 B015	Numerical analysis of metal vapor for coupled arc in double electrodes TIG welding X. WANG , L. CHI, Z. HUANG, D. FAN. Chongqing University of Technology, P.R. China
11:45-12:00 B002	Application of neural network based hardness prediction method to HAZ of A533B steel produced by laser temper bead welding Lina YU , Kazuyoshi SAIDA, Shinro HIRANO, Naoki CHIGUSA, Masahito MOCHIZUKI, Kazutoshi NISHIMOTO. Osaka University, Japan
12:00-12:15 B018	Numerical analysis of the metal vapor in tungsten inert gas welding with an extra axial magnetic field Lei XIAO , Ding FAN, Jiankang HUANG. Lanzhou University of Technology, P.R. China
12:15-12:30 B048	Numerical studying the effect of welding parameters on arc penetrability in plasma arc welding process Tianqing LI , C S WU, Y C LEI. Jiangsu University, P.R. China
12:30-13:10	Lunch
Session B5: Room 3C+3D, Level 3 13:10-15:10, Friday, 30th June, 2017 Chairs: Hao Lu (P.R. China), Ji Chen (P.R. China)	
13:10-13:35 B052	Keynote: Simulation of solidification microstructure and solid-state phase transformation during welding process Yanhong WEI , Fengyi YU, Lei WANG, Cheng GU. Nanjing University of Aeronautics and Astronautics, P.R. China
13:35-13:55 B069	Invited: Understanding the formation of 'kissing bond' defects in friction stir welds Gaoqiang CHEN, Han LI, Shuai ZHANG, Yucan ZHU, Qingyu SHI . Tsinghua University, P.R. China.
13:55-14:10 B008	The interfacial structure of a linear friction welded Fe/Ni joint Tiejun MA , Yugui LI, Wenya LI, Yong ZHANG, Donggang SHI, Achilles Vairis. Northwestern Polytechnical University, P.R. China
14:10-14:25 B011	Numerical analysis of continuous drive friction welding of dissimilar steels P.H. GENG , G.L. QIN. Shandong University, P.R. China
14:25-14:40 B038	Finite element modeling of the linear friction welding of a nickel-based superalloy Siqi YU , Xiawei YANG, Wenya LI. Northwestern Polytechnical University, P.R. China
14:40-14:55 B049	Non-uniform heat distribution generated by friction and plastic deformation during friction stir welding Shuai ZHANG , Gaoqiang CHEN, Qingyu SHI. Tsinghua University, P.R. China
14:55-15:10 B062	Effect of pin thread on the material flow behaviors during friction stir welding: a computational fluid dynamics study Gaoqiang CHEN , Shuai ZHANG, Yucan ZHU, Qingyu SHI. Tsinghua University, P.R. China.
15:10-15:20	Coffee Break

Session B6: Room 3C+3D, Level 3 15:20-17:20, Friday, 30th June, 2017 Chairs: Yanhong WEI (P.R. China), Qingyu SHI (P.R. China)	
15:20-15:45 B058	Keynote: Welding stress and strain technology: modeling and experiment <u>Hao LU</u> , Qiang LI, Jijin XU, Chun YU, Junmei CHEN, Yi DUAN. Shanghai Jiao Tong University, P.R. China
15:45-16:05 B022	Invited: The role of TIG current on arc heat and force distribution in TIG-MIG hybrid welding R. ZONG, <u>J. CHEN</u> , C.S. WU. Shandong University, P.R. China.
16:05-16:20 B003	Micromechanics based modelling to predict deformation behavior of a C-Mn weld metal <u>Chengze ZHANG</u> , Baoming GONG, Caiyan DENG, Dongpo WANG. Tianjin University, P.R. China
16:50-17:05 B026	Measurement and simulation of welding deformation of large train roof Lvjie LIANG, <u>Shengyong PANG</u> , Xinyu SHAO, Jingsheng WANG. Huazhong University of Science and Technology, P.R. China
16:35-16:50 B021	Numerical simulation of temperature field and residual stress in multi-pass butt-welded 2205/X65 bimetallic pipe <u>Zhiqiang DONG</u> , Jianxun ZHANG. Xi'an Jiaotong University, P.R. China
16:20-16:35 B010	Numerical simulation of stress field of no stress welding by following post-heating <u>Zhechang WANG</u> , Jianjun GUAN, Huaining CHEN. Institute of metal research, Chinese Academy of Sciences, P.R. China
17:05-17:20 B053	Numerical analysis and experiment of ultrasonic waves in GTAW with ultrasonic excitation of current Daqing WANG, Hao LU, <u>Chun YU</u> , Junmei CHEN, Chen HUA, Jijin XU. Shanghai Jiao Tong University, P.R. China
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40, Friday, 29th June, 2017	
PB1 B006	Phase-field investigation of dendrite growth in the laser welding pool of aluminum alloy <u>Lei WANG</u> , Yanhong WEI, Renpei LIU, Wenyong ZHAO, Xiyong CAO, Lvbo SHE. Nanjing University of Aeronautics and Astronautics, P.R. China
PB2 B023	Numerical study on temperature distribution in the friction spot welding of Al-Zn-Mg-Cu alloy <u>Yunqiang ZHAO</u> , Chungui WANG, Chunlin DONG. Guangdong Welding Institute, P.R. China
PB3 B028	Numerical simulation of spatter formation in fiber laser welding of 5083 aluminum alloy <u>Dongsheng WU</u> , Xueming HUA, Fang LI, Lijin HUANG. Shanghai Jiaotong University, P.R. China
PB4 B029	Efficient computation on welding residual stress of a large and complex offshore structure <u>Hongquan ZHAO</u> , Jiawei YANG, Qinlei GE, Dongjun CHEN, Jiasheng ZOU, Chuan LIU. Jiangsu University of Science and Technology, P.R. China
PB5 B033	Simulation study on the arc of cable-type welding wire CO ₂ gas shielded welding <u>Qingxian HU</u> , Caichen ZHU, Xiaoli WANG, Juan PU, Guoxiang XU, Chenfu FANG. Jiangsu University of Science and Technology, P.R. China
PB6 B035	Modeling of residual stress formation in submerged arc welded shipbuilding steel plate ASTM A131 grade A using MATLAB <u>Kittichai SOJIPHAN</u> . King Mongkut's University of Technology North Bangkok, Thailand
PB7 B036	A molecular dynamics study of activated tungsten inert gas welding process <u>Cheng JIN</u> , Chunyuan SHI, Hanchen HUANG. Dalian Jiaotong University, P.R. China
PB8 B037	Numerical simulation of beam current control in thermionic electron gun <u>Jikang FAN</u> , Bojin QI, Fangjun LIU, Wei ZHANG. Beihang University, P.R. China
PB9 B40	Numerical simulation of plasma-MIG hybrid welding arc and pool coupled <u>Liang LV</u> , Cheng JIN, Zhiyi ZHANG, Chunyuan SHI. Dalian Jiaotong University, P.R. China
PB10 B41	Vrestraint for weldability research and development of new metallic materials <u>Lanzao XU</u> . Shanghai Yinrong Electron Co., Ltd, P.R. China
PB11 B42	Developing high efficient numerical method for distortion prediction in laser additive manufacturing <u>Ruishan XIE</u> , Yue ZHAO, Xin LIN, Lei WEI, Qingyu SHI. Tsinghua University, P.R. China
PB12 B56	Simulation of thermal deformation according to welding path and cooling condition for elbow inner pipe in overlay welding <u>Young Cheol JEONG</u> , Young Tae CHO, and Yoon-Gyo JUNG. Changwon National University, Republic of Korea
PB13 B60	Critical natural frequency: an improved empirical effectiveness criteria in vibration stress relief of rectangle welded plates <u>Shuqi LI</u> . Changzhou Vocational Institute of Engineering, P.R. China
PB14 B61	The creep failure behavior of dissimilar welded joint between T91 and HR3C <u>Jianqiang ZHANG</u> , Jialin GUO, Bingyin YAO, Taijiang LI, Fuguang LIU. Wuhan University, P.R. China
PB15	Analysis of the electrical signal of plasma in YAG laser welding

B63	Shengbin ZHAO , Lijun YANG, Tong LIU, Jiajing PAN, Wencong QIU. Tianjin University, P.R. China
PB16 B005	Numerical simulation on weld pool dynamics in magnetically supported full penetration laser welding of moderate-thick aluminum alloy plates Jicheng CHEN , Yanhong WEI, Renpei LIU, Dan ZHANG. Nanjing University of Aeronautics and Astronautics, P.R. China
PB17 B001	The 80°C temperature distribution of thick plate multi-pass welding based on SYSWELD software Tao HAN , Hongjie ZHANG, Xiaoyu ZHU. China University of Petroleum, P.R. China
PB18 B004	Study on the instability of in-service welding based on ANSYS Tao HAN , Xiaoyu ZHU, Hongjie ZHANG. China University of Petroleum, P.R. China
PB19 B016	The study on the distribution of toughness along the thickness direction of a weld in HAZ Mengjia HU , Zhipeng CAI, Kejian LI, Xia LIU, Jiluan PAN. Tsinghua University, P.R. China
PB20 B017	Effect of thermal cycle in laser-MIG hybrid welding on properties of heat affected zone of A7N01P-T4 aluminum alloy Cui HUANG , Shufang ZHANG, Jie HU, Qiang ZHOU, Jingqing CHEN, Xiaomin WANG. Southwest Jiaotong University, P.R. China
PB21 B019	Theoretical calculation and numerical simulation of the pipe fillet weld height based on the deformation and stress field Ling QIAO , Tao HAN, Hongjie ZHANG. China University of Petroleum, P.R. China
PB22 B020	Numerical simulation of welding deformation in Ti-6Al-4V butt welded plates by electron beam welding considering welding clamping force Danqing YIN , Xiaojie LI, Ranfeng QIU, Dongpo WANG, Ning MA. Henan University of Science and Technology, P.R. China
PB23 B027	Numerical simulation of horizontal transversal displacement under different fixed clamping force of welding fixture for super alloy during Tungsten Inert Gas arc welding Wenyang ZHANG , Shaoqing GUO, Zhongjin YUAN, Siyi TANG, Jiayu LIANG, Xuejun ZHANG. Beijing Institute of Aeronautical Materials, P.R. China
PB24 B032	Simulation study of weld pool dynamic behavior in swing arc narrow gap vertical GMA welding Guoxiang XU , Wenda LI, Qingnan CAO, Jiayou WANG, Jie ZHU, Pengfei, LI. Jiangsu University of Science and Technology, P.R. China
PB25 B068	Numerical simulation and calculation of welding longitudinal strain Zhechang WANG , Jianjun GUAN, Huaining CHEN. Institute of metal research, Chinese Academy of Sciences, P.R. China
PB26 B070	Creep Performance Simulation of Grade 91 Steel Welds X. Yu , W. Zhang, Y. Gao and Z. Feng. Oak Ridge National Laboratory, USA

Topic C: High Strength Material Welding

Session C1: Room 5B+5C, Level 5 13:00-15:00, Thursday, 29th June, 2017 Chairs: Vincent van der MEE (The Netherlands), Zhiling TIAN (P.R. China)	
13:00-13:25	Keynote: High strength steel consumables taken to the next level Vincent van der MEE , Lincoln Electric Europe BV, The Netherlands
13:25-13:50	Keynote: Improvement of weld properties by grain boundary engineering Hiroyuki KOKAWA , Tohoku University, Japan
13:50-14:15	Keynote: Flux cored wires for LNG applications – controlled ferrite FCW for stainless steel piping systems and 625 nickel base FCW for 9%Ni steel storage tanks Zhuyao Zhang , Metrode Products Limited, United Kingdom
14:15-14:29 C011	Effect of layered ultrasonic impact treatment on microstructure and mechanical properties of weld metal in a thick welded joint Jiasheng Zou , Jiawei YANG, Qinglei GE, Dongjun CHEN, Fei GAO, Chuan LIU. Jiangsu University of Science and Technology, P.R. China
14:29-14:43 C046	Laser-arc hybrid welding of 45 mm thick steel sections for cold climate applications J. Frostevarg , I. BUNAZIV, O. M. AKSELSEN, A. F.H. KAPLAN. Luleå University of Technology, Sweden
14:43-14:57 C064	Advance technique to produce narrowest gap GMA weld joint of thick sections Ramkishor ANANT , P.K. GHOSH. IIT Roorkee, India
15:00-15:15	<i>Coffee Break</i>
Session C2: Room 5B+5C, Level 5 15:15-17:20, Thursday, 29th June, 2017 Chairs: Hiroyuki KOKAWA (Japan), Zhuyao ZHANG (United Kingdom)	
15:15-15:40	Keynote: Developing resistance spot welding processes for joining 6XXX aluminum alloys to zinc coated steels Blair E. CARLSON , General Motors Global R&D Center, USA
15:40-16:05	Keynote: Sustainable laser joining technologies for automotive applications F. VOLLERTSEN , Bremer Institut für angewandte Strahltechnik GmbH and University of Bremen, Germany
16:05-16:19 C066	Investigation on the Activated TIG welding of Cr-Mo-V steels Jay J. VORA , Vivek PATEL, Sagar SUTHAR, Ashutosh NAIK, Darshan KUNDAL, Ritesh PATEL, Subhash DAS. Pandit Deendayal Petroleum University, India
16:19-16:33 C051	The effect of the filler material choice on the fatigue crack growth resistance of high strength steel welded joints J. LUKÁCS , Á. DOBOSY. University of Miskolc, Hungary
16:33-16:47 C080	Induction assisted alternating current gas metal arc welding (IH-ACGMAW) for thick steel plate applications A. IKRAM , M.S. KANG, H. CHUNG. Korea Advanced Institute of Science and Technology, Republic of Korea
16:47-17:01 C004	Influence of stress ratio, microstructure and residual stresses on fatigue crack growth behaviour of Ni-Cr-Mo-V high strength steel welded joint Qiang WANG , Xuesong LIU, Zhibo DONG, Xiang XIONG, Hongyuan FANG. Harbin Institute of Technology, P.R. China
17:01-17:15 C061	Characterization of fiber laser welded TC4/SS 304 joints using Cu interlayer Seyed Reza Elmi HOSSEINI , Zhuguo LI, Baochao GUO, Song XUE, Hongwei GONG, Ziwei ZHANG. Shanghai Jiao Tong University, P.R. China
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session C3: Room 5B+5C, Level 5 8:20-10:20, Friday, 30th June, 2017 Chair: Zhuoxin LI (P.R. China)	
8:20-8:34 C012	Effect depth of ultrasonic impact treatment on the residual stress and mechanical property of a high-strength steel welded joint Chuan LIU , Jiawei YANG, Qinglei GE, Dongjun CHEN, Fei GAO, Jiasheng ZOU. Jiangsu University of Science and Technology, P.R. China

8:34-8:48 C048	Microstructural evolution and mechanical properties of low transformation temperature weld metals after post weld heat treatment Shipin WU , Dongpo WANG, Xinjie DI, Zhongyuan FENG, Zhi ZHANG. Tianjin University, P.R. China
8:48-9:02 C005	Development of nickel-based flux-cored wire for underwater wet welding Hongliang LI , Duo LIU, Yaotian YAN, Ning GUO, Jicai FENG. Harbin Institute of Technology, P.R. China
9:02-9:16 C006	Microstructural evolution and mechanical properties of low carbon bainitic weld metals with various nickel contents Gaojun MAO , Rui CAO, Jianhong CHEN, Xili GUO, Yong JIANG. Lanzhou University of Technology, P.R. China
9:16-9:30 C035	Microstructure, residual stress and microtexture in welded joint using low transformation temperature welding consumables Zhongyuan FENG , Xinjie DI, Shipin WU, Zhi ZHANG, Dongpo WANG, Xiaoqian LIU. Tianjin University, P.R. China
9:30-9:44 C019	Mechanical properties improvement of low alloy high strength steel welds with nano TiO ₂ addition Cuixin CHEN , Wei ZHANG, Baoxi LIU, Haitao XUE, Baojun MA, Mingyang LIU. Hebei University of Technology, P.R. China
9:44-9:58 C020	Microstructure and mechanical properties of fiber laser welded joints of reduced activation ferritic/martensitic CLF-1 steel heavy plate JianChao ZHANG , ShiKai WU, Hongbin LIAO, Xiaoyu WANG. Beijing University of Technology, P.R. China
9:58-10:12 C026	Influence of carbon content on microstructure and mechanical properties of 1000 MPa deposited metal by GMAW Tongbang AN , Jinshan WEI, Lin ZHAO, Jiguo SHAN, Zhiling TIAN. Central Iron & Steel Research Institute, P.R. China
10:20-10:30	Coffee Break
Session C4: Room 5B+5C, Level 5 10:30-12:30, Friday, 30th June, 2017 Chair: Xinjie Di (P.R. China)	
10:30-10:44 C028	HAZ/WM interfacial microstructure in strength mismatched armored steel weldments W. TAN , Beijing Special Equipment Inspection and Test Centre, P.R. China
10:44-10:58 C031	Research on spot welding process and electrode failure mechanism of hot-dip galvanized high strength steel Wu ZHANG , Yonggang LIU, Yaoyao JI, Changjing CHENG, Dongya LIU, Weifeng WANG. Automotive steel research institute of Ma'anshan Iron and Steel Company, P.R. China
10:58-11:12 C032	Microstructure and mechanical properties of laser welded joint of QP steel Zhandong WAN , Wei GUO, Qiang JIA, Peng PENG. Beihang University, P.R. China
11:12-11:26 C033	Microstructure and formability analysis of laser-welded blanks of Q&P steel Lixia MA , Weidong LI, Qiang JIA, Wei GUO, Peng PENG. Beihang University, P.R. China
11:26-11:40 C077	Hybrid friction stir welding of SS400 assisted by gas tungsten arc welding Xiaoxu Li , Tao Yuan, Shujun Chen, Xiaoqing Jiang. Beijing University of Technology, P.R. China
11:40-11:54 C041	Fatigue crack propagation behaviors of 20Cr2NiMo rotor steel with narrow gap submerged arc welded joint Zhaohui YU , Wanghua WANG, Jianxun ZHANG. Xi'an Jiaotong University, P.R. China
11:54-12:08 C042	Effect of shielding gas compositions on microstructure and mechanical properties of deposited metals of E120C-K4 metal-cored wire Tianli ZHANG , Zhuoxin LI, Heng WANG, Guodong LI, Sindo KOU. Beijing University of Technology, P.R. China
12:08-12:22 C034	Effect of welding parameters on the quality of Ti6Al4V laser beam welded joints E. HODULOVA , B. SIMEKOVA, J. BARTA, I. KOVARIKOVA, M. MARONEK. Slovak University of Technology in Bratislava, Slovak Republic
12:30-13:10	Lunch
Session C5: Room 5B+5C, Level 5 13:10-15:10, Friday, 30th June, 2017 Chair: Yun PENG (P.R. China)	
13:10-13:24 C043	High-temperature interface fracture behaviour of martensitic steel welded joint with Ni-based weld metal during low-cycle fatigue Qunbing ZHANG , Jianxun ZHANG. Xi'an Jiaotong University, P.R. China
13:24-13:38 C045	Microstructures and properties of fiber laser-MIG hybrid welded joint in X120 pipeline steel Lianhai HU , Changling XU, Yang ZHAO, Xiaolin LIU, Debin HOU. Shijiazhuang Tiedao University, P.R. China

13:38-13:52 C055	Microstructure and mechanical properties of fiber laser welded 1700MPa ultrahigh strength steels Chong LUO , Jiguo SHAN. Tsinghua University, P.R. China
13:52-14:06 C065	Microstructure and mechanical properties of laser welded joints of QP and martensitic steels Qiang JIA , Wei GUO, Zhandong WAN, Peng PENG. Beihang University, P.R. China
14:06-14:20 C068	Microstructural features and corrosion behaviour of electron beam welded AF1410 Joints Kai LI , Daibin TANG, Pengfei FU, Tong ZHAO, Zhenyun TANG, Zhiyong MAO. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
14:20-14:34 C072	Comparison of advanced high strength steel thick plate joined by hybrid plasma arc welding and GMAW Xiaoteng WANG , Ling FU, Huili REN, Yong GUAN, Xing TAN. Zoomlion Heavy Industry Science & Technology Development Co., Ltd., P.R. China
14:34-14:48 C003	Behaviors and effects of Zn coating on welding-brazing process of Al-Steel and Mg-steel dissimilar metals Rui CAO , J. H. CHANG, Q. HUANG, H. X. ZHU, J. H. SUN, J. H. CHEN. Lanzhou University of Technology, P.R. China.
14:48-15:02 C054	Microstructural characterization and evolution mechanism of Ti600 and Ni-25%Si joint brazed with TiZrNiCu amorphous filler foil Xiaopeng LI , Binggang ZHANG, Houqin WANG, Tao YU. Harbin Institute of Technology, P.R. China
15:02-15:16 C060	Microstructure, mechanical properties and residual stresses of electron beam dissimilar welded structural intermetallics Ti2AlNb alloy and TA15 alloy Yue ZHAO , Aiping WU, Yanjun LI, Ruican ZHU, Guoqing WANG. Tsinghua University, P.R. China
15:15-15:20	Coffee Break
Session C6: Room 5B+5C, Level 5 15:20-17:20, Friday, 30th June, 2017 Chair: Zhuguo LI (P.R. China)	
15:20-15:34 C069	Laser-TIG hybrid butt welding of magnesium alloy to mild steel with filling AZ61 welding wire Gang SONG , Jingwei YU, Liming LIU. Dalian University of Technology, P.R. China
15:34-15:48 C021	Effect of thermal compensation treatment on the microstructure and mechanical properties of electron beam welded joints for high Nb containing TiAl/Ti600 alloys Ke HAN , Binggang ZHANG, Houqin WANG. Harbin Institute of Technology, P.R. China
15:48-16:02 C024	Research on microstructures and mechanical properties of welded joints of 2219-C10S aluminum alloy Dengkui ZHANG , Quan LI, Guoqing WANG, Xianli LIU, Jianling SONG, Yue ZHAO, Aiping WU. Tsinghua University, P.R. China
16:02-16:16 C073	Effect of variable polarity parameters on variable polarity plasma arc welding for magnesium alloy Zhaoyang YAN , Fan JIANG, Shujun CHEN, Zhenyang LU, Debao LI. Beijing University of Technology, P.R. China
16:16-16:30 C039	Effect of rotation speed on microstructure and mechanical properties of self-reacting friction stir welded AZ61 magnesium alloy G. H. LI, M. R. YU, L. ZHOU , G. D. ZHA, J. WANG, H. Y. ZHAO, J. C. FENG. Harbin Institute of Technology, P.R. China
16:30-16:44 C037	Effect of hot deformation parameter on microstructure and mechanical properties of friction stir welded CP-Ti joint N. XU , Q.N. SONG, Y.F. BAO and Y.F. JIANG. Hohai University, P.R. China
16:44-16:58 C053	Microstructure and mechanical properties of GTAW and fiber LBW GH3535 superalloy Chaowen LI, Wanxia WANG , Kun YU, Shuangjian CHEN and Zhijun LI. Shanghai Institute of Applied Physics, Chinese Academy of Sciences, P.R. China
16:58-17:12 C57	Study on crack resistance of weld metal for ENiCrMo3T0-4 Nickel-based flux-cored wire H. WANG , Z.X. LI, T.L. ZHANG. The corewel welding (Jiangsu) Co., Ltd., P.R. China
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40, Friday, 29th June, 2017	
PC1 C001	The study of high-strength aluminum alloy A-TIG welding technology Hui LI, Jiasheng ZOU, Xia CAO, Dandan ZHANG , Shuquan ZHANG, Junshan YAO and Wenqing QU. Jiangsu University of Science and Technology, P.R. China
PC2 C002	Effect of shot peening on the microstructure and mechanical properties of AZ31 magnesium alloy welded joints Yajie CHU , Wei ZHAO, Fengcang MA, Shujian DING, Shaojun WU. Nanjing Institute of Technology, P.R. China
PC3 C007	Intercritically reheated CGHAZ in double-sided double GTAW backing welding of 10CrNi3MoV steel Kang PENG , Chunli YANG, Sanbao LIN, Chenglei FAN. Harbin Institute of Technology, P.R. China
PC4 C008	Study on welding technology of wind turbine motor rotor Zhen MA , Minghu ZHUANG, Liting Mu, Jun WANG, Jun LIAN, Muqin LI. Jiamusi University, P.R. China

PC5 C009	The effect of technological parameters on the EBW lap joints of the dissimilar aluminum alloy of 7A55 and 2A14 Yuxing ZHAO , Taiwen HU, Junjie ZHANG, Lei RONG, Yuanqing JIANG, Li KANG. China Academy of Launch Vehicle Technology, P.R. China
PC6 C010	Evaluation on microstructure and mechanical properties of titanium alloy TC4 joint with electromagnetic oscillating arc narrow gap TIG welding Wanghui XU , Shuang LI, Yupeng ZHANG, Weiping FANG, Ziyi LUO, Yaoyong YI. China-Ukraine E.O. Paton Institute of Welding, P.R. China
PC7 C013	Effect of ultrasound on heterogeneous nucleation in TIG welding of Al-Li alloy Qihao CHEN , Sanbao LIN, Chunli YANG, Chenglei FAN. Harbin Institute of Technology, P.R. China
PC8 C014	Study on the mechanical heterogeneity of thick part TC4 titanium joint by electron beam method Y.P. ZHANG , W.P. FANG, C. YU, W.H. XU. China-Ukraine E.O. Paton Institute of Welding, P.R. China
PC9 C015	Analysis of penetration depth variation and porosity suppression in laser welding of aluminum alloy under vacuum M. JIANG , G. PENG, W. TAO, L. LI, Y. CHEN. Harbin Institute of Technology, P.R. China
PC10 C016	Analysis of droplet explosion of high strength austenitic wire in pulsed-MIG welding Guangrui HUO , Gang XUE, Jicheng NIU, Jian LIU, Dayong LI, Yu CHEN. Luoyang Ship Material Research Institute, P.R. China
PC11 C017	Properties and microstruct evolution mechanism of Ni-Cr-W series nickel based alloy laser welding joint Jiankun XIONG , Haiyan ZHAO, Jingming LENG, Jian XU. Tsinghua University, P.R. China
PC12 C018	Comparison of the microstructure and mechanical performance of 2060-T8/2099-T83 aluminum-lithium alloys T-joints between conventional and skin embedded wire double-sided laser beam welding B. HAN , Y. B. CHEN, W. TAO, H. LI. Harbin Institute of Technology, P.R. China
PC13 C022	The corrosion behavior of cold spray coating on 2219 aluminum alloy joints prepared by friction stir welding (FSW) Changyu ZHAO , Hua ZHANG, Bing CUI, Xuemei YAN. Beijing Institute of Petrochemical Technology, P.R. China
PC14 C023	Applications and developments of self-reacting friction stir welding Xuemei YAN , Hua ZHANG, Bing CUI, Changyu ZHAO. Beijing Institute of Petrochemical Technology, P.R. China
PC15 C025	Study on grain refinement of nickel-based filler metal 52M microstructure by pulse TIG welding Xiaohong ZHANG , Jingqing CHEN, Kang ZHANG, Hui CHEN. Southwest Jiaotong University, P.R. China
PC16 C027	Effect of treatment in weld surface on four-point bend fatigue properties of titanium alloys welded joints by vacuum electron beam welding Peng LIU , T. ZHAI, Jianing LI, Keyun FENG, Geming ZHANG. Shandong Jianzhu University, P.R. China
PC17 C029	Study on the performance and microstructure analysis of Ni-Cr-Mo-V steel repair welds Xin HUO , Peng WANG, Xiaojin XU, Manjie FAN. Shanghai Electric Power Generation Equipment Co. Ltd., P.R. China
PC18 C030	Laser-MIG hybrid welding of thick-section TC4 alloy: relationship between microstructure and tensile performance Xuan SU , Wang TAO, Yanbin CHEN. Harbin Institute of Technology, P.R. China
PC19 C036	Influence of laser power on interfacial microstructure and mechanical properties in welding-brazing DP590/6061-T6 dissimilar joint Hongbo XIA , Liqun LI, Ninshu MA. Harbin Institute of Technology, P.R. China
PC20 C038	The study of fracture toughness on the dissimilar metal 30Cr1Mo1V and 30Cr2Ni4MoV welded Junqi DU , Jianxun ZHANG, Wenke WANG. Xi'an Jiaotong University, P.R. China
PC21 C040	Study on characteristics of Laser-MAG hybrid welded S355J2W+N high-strength steel fillet joint Shibo WU , Zhenglong LEI, Bingwei LI, Yanbin CHEN. Harbin Institute of Technology, P.R. China
PC22 C044	Microstructure and mechanical properties in dissimilar welded joints of the thick-walked steam turbine rotor steel W. K. WANG , J. X. ZHANG, Q. B. ZHANG. Xi'an Jiaotong University, P.R. China
PC23 C047	Microstructures and properties of resistance plug welding joint based on dissimilar steel Yaodong CEN , Furong CHEN. Inner Mongolia University of Technology, P.R. China
PC24 C049	A comparative study of microstructure and tensile properties of laser and laser-additive welded Ti2AlNb joints Kezhao ZHANG , Zhenglong LEI, Heng ZHOU, Longchang NI. Harbin Institute of Technology, P.R. China
PC25 C052	Effect of Ti and S of solid wires on droplet formation during gas shielded arc welding Yu ZHANG , Yuan TONG, Na WANG, Jie ZHU, Jia-you WANG. Institute of Research of Iron and Steel, P.R. China

PC26 C056	An innovative welding technique: stationary shoulder supporting and oblique pin penetrating friction stir welding Yanying HU , Huijie LIU. Harbin Institute of Technology, P.R. China
PC27 C058	The effects of thermal cycles on the microstructure and cyclic behavior of A7N01-T4 aluminum alloy Yi DUAN , Jijin XU, Jingyao CHEN, Chun YU, Junmei CHEN, Hao LU. Shanghai Jiao Tong University, P.R. China
PC28 C059	Effect of laser-MIG hybrid welding process on corrosion properties of a corrosion resistant steel plate Yan GAO , Li CUI, Changshi GU, Dingyong HE. Beijing University of Technology, P.R. China
PC29 C062	Study the intermetallic compounds layer thickness in fiber laser fusion-welded stainless steel to titanium alloy pair joints Seved Reza Elmi HOSSEINI , Zhuguo LI, Baochao GUO, Song XUE, Hongwei GONG, Ziwei ZHANG. Shanghai Jiao Tong University, P.R. China
PC30 C063	Lamellarizing process influence on HAZ microstructure and toughness for HSLA steels Zhanpeng QIN , Honghong WANG, Zhi TONG, Kaiming WU. Wuhan University of Science and Technology, P.R. China
PC31 C067	Mechanical performance of three-layer resistance spot welding joint made of dissimilar high strength steel Jiangwei REN , Xiaomin LUO, Dong LI, Wanpeng DONG. Shanghai University of Engineering Science, P.R. China
PC32 C070	Joint of dissimilar Ti/Al alloy via hybrid friction stir welding assisted by friction surfacing Zongliang LV , Yongxian HUANG, Long WAN, Junjun SHEN, Stefanie HANKE, Jorge F. dos SANTOS. Harbin Institute of Technology, P.R. China
PC33 C071	Process parameter optimization and performance evaluation on laser welding of 2205 duplex stainless steel W. W. ZHANG , J. H. FANG, S. CONG, S. B. LUO. Institute of Electronic Engineering, China Academy of Engineering Physics, P.R. China
PC34 C074	Bonding behaviors of a Co-base polycrystalline and a Ni-base single crystal superalloy at high temperature J D LIU , Y SUN, B LI, X Y ZHOU, Y Z ZHOU, T JIN, X F SUN. Institute of Metal Research, Chinese Academy of Sciences, China
PC35 C075	An equal impact resistance design method for under-matching weld joint Wei WANG , Ping WANG, Xuesong LIU, Zhibo DONG, Hongyuan FANG. Harbin Institute of Technology, P.R. China
PC36 C076	Study on weld appearance and joint mechanical properties of laser welding Ti-4.5Al-3V-2Mo-2Fe titanium alloy Li CHEN , Enguang HE, Xiyuan CHEN. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PC37 C078	Research on fiber laser-CMT arc hybrid welding-brazing of butt joint of 3mm thick Ti/Al dissimilar alloys Ruisheng HUANG , Xiaomei LIANG, Xuyou WANG, Wei WANG, Bin TENG. Harbin Welding Institute, P.R. China
PC38 C079	Effect of magnesium alloy DE-GMAW processing parameters on microhardness Xu SHEN , GuoHong MA, Wenjie CHEN. Nanchang University, P.R. China

Topic D: Additive Manufacturing

Session D1: Room 5H, Level 5 13:00-15:00, Thursday, 29th June, 2017 Chairs: Shuili GONG (P.R. China), Yongqiang YANG (P.R. China)	
13:00-13:25	Keynote: Fundamental materials aspects on additive manufacturing for high-performance large critical metallic components Huaming WANG , Beihang University, P.R. China
13:25-13:45 D026	Invited: Defects of TC4 Titanium alloys fabricated by selective laser melting and effects on tensile properties Huaixue LI , Baiying HUANG, Quandong HU, Yudai WANG. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
13:45-14:00 D015	Robust powder bed fusion processing by avoiding humidity influences S. SZEMKUS , C. STRAUBE, S. MATTHES, S. JAHN. Guenter-Koehler-Institut fuer Fuegetechnik und Werkstoffpruefung GmbH, Germany
14:00-14:15 D009	Numerical simulation of heat transfer and fluid flow behaviors in electron beam freeform fabrication Renzhi HU , Shengyong PANG, Xin CHEN, Xinyu SHAO. Huazhong University of Science and Technology, P.R. China
14:15-14:30 D002	Analysis of the powder feeding behavior in coaxial laser cladding Yicheng YANG , Wei WANG, Xuyou WANG, Ruisheng HUANG, Hao CAO, Jipeng ZOU. Harbin Welding Institute, P.R. China
14:30-14:45 D003	Double-wires + arc additive manufacturing for Al-Cu-Mg aluminum alloy components Zewu QI , Baoqiang CONG, Bojin QI, Gang ZHAO, Hongye SUN, Hao ZHONG. Beihang University, P.R. China
14:45-15:00 D018	Repair welding reclamation of 42CrMo4 and C45 Steels M. A. MORSY , E. EL-KASHIF. Central Metallurgical Research and Development Institute, Egypt
15:00-15:15	<i>Coffee Break</i>
Session D2: Room 5H, Level 5 15:15-17:20, Thursday, 29th June, 2017 Chairs: Zhengying WEI (P.R. China), Jianrong LIU (P.R. China)	
15:15-15:40	Keynote: Selective laser melting (or 3D printing) of aerospace materials, its quality control and qualification Xinhua WU , Monash University, Australia
15:40-16:00	Invited: Development of additive manufacturing for metal parts by selective laser melting Yongqiang YANG , South China University of Technology, P.R. China
16:00-16:15 D011	Investigation of the benefits of double wire tandem GMAW for additive manufacturing of integrally stiffened panels Junbiao SHI , Fang LI, Shuju CHEN, Yun ZHAO, Shanwen DONG. Beijing University of Technology, P.R. China
16:15-16:30 D013	Microstructure investigation of WCp/Al composites fabricated by coincident wire-powder direct laser deposition for additive Fuquan LI , Xinyou FENG, Jing SUN, Mingwei LI. Harbin Institute of Technology, P.R. China
16:30-16:45 D024	Resrarch on copper/steel gradient composite depositions prepared by electron beam freeform fabrication Guoqing CHEN , Xi SHU, Binggang ZHANG, Jicai FENG. Harbin Institute of Technology, P.R. China
16:45-17:00 D016	A Study of the effect of graphene on the wear resistance of flux – cored welding wires Zhiquan HUANG , Jianjun WEI, Wei YANG, Wei WEI. Zhengzhou Research Institute of Mechanical Engineering, P.R. China
17:00-17:15 D014	Microstructure and phase formation in Al-20Si synthesized by selective laser melting P. MA , Z.S. YU, J. ZHAO, S.L. YANG. Shanghai University of Engineering Science, P.R. China
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session D3: Room 5H, Level 5 8:20-10:20, Friday, 30th June, 2017 Chairs: Haiou ZHANG (P.R. China), Huaixue LI (P.R. China)	
8:20-8:45	Keynote: From 3DP to 3DM Haiou ZHANG , Huazhong University of Science and Technology, P.R. China
8:45-9:05	Invited: Additive manufacturing technology: application & development Zhengying WEI , Xi'an Jiaotong University, P.R. China

9:05-9:25	Invited: Current situation and trends of titanium alloys for 3D-printing use Jianrong LIU , Institute of metal research, P.R. China
9:25-9:40 D017	Evaluation of microstructure and mechanical properties of as-built EBM Ti-6Al-4V Wei CHEN , Zheyuan CHEN, Yang YANG. AVIC Manufacturing Technology Research Institute, P.R. China
9:40-9:55 D001	Laser shock peening on microstructure and tensile property of wire-arc additive manufactured 2319 aluminum alloy Rujian SUN , Liuhe LI, Ying ZHU, Wei GUO, Peng PENG, Baoqiang CONG. Beihang University, P.R. China
9:55-10:10 D007	Laser melting deposition joining of Sip/6063Al composite based on additive manufacturing Ze TIAN , Peng LI, Zhenglong LEI, Yanbin CHEN. Harbin Institute of Technology, Harbin, 150001, P.R. China
10:20-10:30	Coffee Break
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40 Friday, 29th June, 2017	
PD1 D004	Fabrication of graded TiC/Ti6Al4V titanium matrix composite by laser melting deposition Jiandong WANG , Liqun LI, Chen HONG. Harbin Institute of Technology, P.R.China
PD2 D005	Investigation of sensor signal characteristics of GMAW-based additive manufacture Lin WANG , Xiangdong GAO, Yaowu SONG. Guangdong University of Technology, P.R. China
PD3 D006	Characterisation of in-situ TiC reinforced NiCrBSi composite coatings by plasma spray welding S. M. HUANG , D. Q. SUN, C. Y. SHI, W. Q. WANG. Dalian Jiaotong University, P.R. China
PD4 D008	Quality research based on spectral diagnostics in laser additive manufacturing Bo CHEN , Yongzhen YAO, Caiwang TAN, Yuhua HUANG, Jicai FENG. Harbin Institute of Technology, P.R. China
PD5 D010	Microstructure and mechanical properties of 5356 aluminum alloy thin-walled components produced by laser induced MIG arc additive manufacturing Zhaodong ZHANG , Chengshuai SUN, liming LIU. Dalian University of Technology, P.R. China
PD6 D012	Optimization of heat treatment regime for laser deposited IN718 alloy Y.C. ZHANG , Y. LI, and J. DAI. Changshu Institute of Technology, P.R. China
PD7 D020	Effect of alloy composition on microstructure and properties of the powder surfacing layer by CO ₂ arc welding Tingting WANG , Yuanbin ZHANG, Yueliang XIE. Shandong Jianzhu University, P.R. China
PD9 D022	Cold metal transfer based wire arc additive manufacturing of hard surfacing welding wires for molds and dies Dingqi XUE . Fuzhou University, P.R. China
PD10 D023	Surface contours analyses of the components after AWAM Hongyu TIAN , Shujun CHEN, Fang LI, Yun ZHAO and Xu YU. Beijing Union University, P.R.China
PD12 D025	The process and property of multi-pass lase welding with nor wire filling on thick plate Feihu SHAN , Shuili GONG, Jun TAO. Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PD13 D027	Effects of metal-vapor jet force on the physical behavior of melting wire transfer in electron beam additive manufacturing Jian ZHAO , Binggang ZHANG, Xiaopeng LI, Ruishan LI. Harbin Institute of Technology, R.P. China

Topic E: Nano/Micro Welding and Joining

Session E1: Room 5D+5E, Level 5 13:00-15:10, Thursday, 29th June, 2017 Chairs: Luisa QUINTINO (Portugal), Wei ZHOU (Singapore)	
13:00-13:10	Opening Guisheng ZOU , Tsinghua University, P.R.China
13:10-13:40 E053	Keynote: From welding/joining to microjoining and nanojoining Y. Norman ZHOU , Lei. LIU, Guisheng ZOU. University of Waterloo, Canada
13:40-14:10 E054	Keynote: Metal-to-ceramics direct joining using Ag ₂ O paste A. HIROSE , K. ASAMA, K. MOTOYAMA, T. MATSUDA, T. SANO. Osaka University, Japan
14:10-14:40 E046	Keynote: Enabling the effective joining of W/Cu via femto-second laser induced micro/nano interfaces Minlin ZHONG , Dafa JIANG, Hongjun ZHANG. Tsinghua University, P.R. China
14:40-15:10 E049	Keynote: Fast directional mass transport at the nano-scale - an opportunity for nanojoining Lars P.H. JEURGENS , M. CHIODI, J. JANCZAK-RUSCH. Empa, Switzerland
15:10-15:30	<i>Coffee Break</i>
Session E2: Room 5D+5E, Level 5 15:30-18:00, Thursday, 29th June, 2017 Chairs: Lars P.H. JEURGENS (Switzerland), Mingyu LI (P.R. China)	
15:30-16:00 E028	Keynote: Fabrication of 3D nanohierarchical nanomace array to sinter with silver nanoparticles: a novel way to enhance the NPs sintering process Chunqing WANG , Wei ZHOU, Zhen ZHENG, Rong AN. Harbin Institute of Technology, P.R. China
16:00-16:20 E067	Invited: Development of standards for microjoining Wei ZHOU . Nanyang Technological University, Singapore
16:20-16:40 E040	Invited: Joining and bonding of nanowires: what's happening at the nanoscale? Zhiyong GU . University of Massachusetts Lowell, USA
16:40-17:00 E048	Invited: Improving bonding strength in the interfaces of accumulative roll bonded laminates Lihong SU, Cheng LU, Huijun LI . University of Wollongong, Australia
17:00-17:20 E057	Invited: Flexibility of silver based nanocomposite pastes and its bonding strength B. G. PARK, C. J. LEE, S. B. JUNG . Sungkyunkwan University, Republic of Korea
17:20-17:40 E050	Invited: Additive manufacturing of ceramic patterns by using fine pattern exposing stereolithography S. KIRIHARA . Osaka University, Japan
17:40-18:00 E030	Invited: Nanobrazing of nickel and nickel superalloys Denzel BRIDGES, Chaoli MA, Suhong ZHANG, Zhili FENG, Anming HU . University of Tennessee, USA
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session E3: Room 5D+5E, Level 5 8:30-10:30, Friday, 30th June, 2017 Chairs: Chunqing WANG (P.R. China), Huijun LI (Australia)	
8:30-8:50 E027	Invited: Fast formation and growth of high density Sn whiskers in Mg/Sn-based solder/Mg joints by ultrasonic assisted soldering Mingyu LI , Haifeng YANG, Hongjun JI. Harbin Institute of Technology(Shenzhen), P.R. China
8:50-9:10 E051	Invited: Simulations of nanowelding with near-field enhancement on AFM probe irradiated by annular laser beam Lijun YANG , Xiwen LU, Yang WANG. Harbin Institute of Technology, P.R. China
9:10-9:30 E044	Invited: Laser-induced single point nanowelding, nanosoldering and nanobreaking of metallic nanowires Qiang LI , Lina ZHOU, Shuwei DAI, Guoping LIU, Hangbo YANG, Min QIU. Zhejiang University, P.R. China
9:30-9:50 E061	Invited: Ultrafast laser induced microjoining and nanojoining L. LIU , Luchan LIN, Daozhi SHEN, G. ZOU, Y. Norman ZHOU. Tsinghua University, P.R. China
9:50-10:10 E016	Invited: Real-time welding evaluation system assessment using the TIG orbital welding process on ultra-thin wall tube joints in titanium & stainless steel Richard FRENCH , Hector MARIN-REYES, Michalis BENAKIS. The University of Sheffield, United Kingdom
10:10-10:30 E026	Invited: Self-organizing microstructures on aluminum for joining with fiber-reinforced plastics Kira van der STRAETEN , Kira Johanna WONSCHIK, Alexander OLOWINSKY, Arnold GILLNER.

	Micro Joining Fraunhofer-Institut für Lasertechnik ILT, Germany
10:30-10:40	Coffee Break
Session E4: Room 5D+5E, Level 5 10:40-12:25, Friday, 30th June, 2017 Chairs: Anming HU (USA), Li FU (P.R. China)	
10:40-11:00 E032	Invited: Lead-free solder/solder joints bearing Ce/nano-Al/nano-La ₂ O ₃ for electronic packaging Liang ZHANG , Zhi-quan LIU, Yong-huan GUO, Fan YANG, Su-juan ZHONG. Jiangsu Normal University, P.R. China
11:00-11:20 E062	Invited: Investigation on heterogeneous nanojoining between single-walled carbon nanotube and silver nanowire: A molecular dynamics simulation Jianlei CUI , Jianwei ZHANG, Xuesong MEI, Xiaoqiao HE. Xi'an Jiaotong University, P.R. China
11:20-11:40 E015	Invited: Accelerative thermal cycling reliability tests for lead-free component boards H. Xu . Harbin Institute of Technology, P.R. China
11:40-11:55 E009	Damage modeling and strength prediction for direct-sintered Al ₂ O ₃ -Cu/Ni/Au joints using Ag ₂ O paste A. LIS , K. ASAMA, T. MATSUDA, T. SANO, A. HIROSE. Osaka University, Japan
11:55-12:10 E043	Microstructure and bonding mechanism of Cu/Zn-xAl/Cu joint brazed with the assistance of ultrasound Yong XIAO , Ling WANG, Mingyu LI. Wuhan University of Technology, P.R. China
12:10-12:25 E039	Electromigration simulation of sweat structure based on COMSOL multi physical field coupling Yi-Ming JIANG, Hai-Long LI , Yunhui MEI. Tianjin University, P.R. China
12:25-13:30	Lunch
Session E5: Room 5D+5E, Level 5 13:30-15:25, Friday, 30th June, 2017 Chairs: Zhiyong GU (USA), Lei LIU (P.R. China)	
13:30-13:45 E033	Effect of Co-P surface finish on interfacial reaction and mechanical reliability of low silver Sn-0.45Ag-0.68Cu-Ni-P solder joint Donghua YANG , Xin JIANG, Guisheng GAN, Chunhong ZHANG, Yunlong SHI, Changhua DU. Chongqing University of Technology, P.R. China.
13:45-13:55 E059	A modeling approach to calculate coupled multiphase transfer and microporosity formation during laser welding for aluminum Q. ZHOU , Katsuma HORIO, Fumikazu MIYASAKA, Hiroaki MORI. Osaka University, Japan
13:55-14:05 E042	Low temperature pressure-free die attaching on bare copper substrate in air by using a novel silver paste Jie LI , Xin LI, Yunhui MEI. Tianjin University, P.R. China
14:05-14:15 E022	Effect of filler metal on the microstructure and properties of laser microwelding joint of Ta/Mo Xingwen ZHOU , Yongde HUANG, Yuhua CHEN. Nanchang Hangkong University, P.R. China
14:15-14:25 E013	Diffusion bonding of Ti alloys using Ti/Ni reactive multilayer films Ying MA , Hong LI, Linpai YANG, Anming HU. Beijing University of Technology, P.R. China
14:25-14:35 E012	Quasi in-situ study of the spalling of the intermetallic compound in Sn63Pb37 solder-Ag/Ge system during solid-solid state annealing Xiaoliang JI , Rong AN, Chunqing WANG. Harbin Institute of Technology, P.R. China
14:35-14:45 E063	Effects of electro migration on the morphology and orientation of Cu ₆ Sn ₅ in Cu/liquid Sn interfacial reaction J.Y. FENG , B.L. LIU, Y.H. TIAN, C.X. WANG. Harbin Institute of Technology, P.R. China
14:45-14:55 E011	Effect of extreme temperature thermal shock on the failure behavior of SnPb solder joints in quad flat packages R.Y. TIAN , C.J. HANG, L.Y. ZHAO, Y.H. TIAN . Harbin Institute of Technology, P.R. China
14:55-15:05 E003	Electroplating enhanced joining of silver nanowire networks and its application in transparent heaters Shang WANG , Chunjin HANG, Yanhong TIAN . Harbin Institute of Technology, P.R. China
15:05-15:15 E031	Vacuum brazing of alumina to stainless steel using femtosecond laser patterned periodic surface structure Y. ZHANG , G. ZOU, L. LIU, A. WU, Z. SUN, Y. N. ZHOU. Tsinghua University, P.R. China
15:15-15:25 E017	Reliability of SiC diode with double-sided sintered silver in active power cycle test Zhenyu ZHAO , Hongqiang ZHANG, Guisheng ZOU, Lei LIU. Tsinghua University, P.R. China
15:25-15:35	Coffee Break
Session E6: Room 5D+5E, Level 5 15:35-17:25, Friday, 30th June, 2017 Chairs: Yunhui Mei (P.R. China), Peng Peng (P.R. China)	
15:35-15:45 E034	Silver nanoparticle low temperature and rapid sintering process for the die-attach of power electronic applications H. ZHANG , Z. ZHAO, G. ZOU, L. LIU, H. BAI. Tsinghua University, P.R. China
15:45-15:55 E045	Selective nanojoining of TiO ₂ nanowire to Pt electrode by femtosecond laser Songling XING , Luchan LIN, Lei LIU, Guisheng ZOU, Y. Norman ZHOU. Tsinghua University, P.R. China

15:55-16:05 E064	Microstructure of TLP repaired IN738LC superalloy with uneven cracks Yu YE , Guisheng ZOU, Weimin LONG, Jinghui WEI, Lei LIU, Aiping WU, Hailin BAI, Y. Norman ZHOU. Tsinghua University, P.R. China
16:05-16:15 E055	A sinter-pack IGBT module using nanosilver paste as die attachment Jingjing FENG , Peng ZHANG, Zhongkang LIN, Yunhui MEI. Tianjin University, P.R. China
16:15-16:25 E056	Enhancement on migration resistance of Ag-Pd paste at high temperatures for power electronic packaging Di WANG , Jingjing FENG, Junchang LIU, Yunhui MEI. Tianjin University, P.R. China
16:25-16:35 E036	Microstructure and mechanical properties of friction stir welded butt joints of ultra-thin aluminum alloy F. J. LIU , H. Y. CHEN, L. FU. Northwestern Polytechnical University, P.R. China
16:35-16:45 E035	Material flow behavior of aluminum alloy in FSW process under high rotational speed D. Q. QIN , H. Y. CHEN, L. FU. Northwestern Polytechnical University, P.R. China
16:45-16:55 E014	Chemical sintering of silver nanoparticle at room temperature for flexible electrodes Lihang LI , Wei GUO, Zhuang HUI, Nan MU, Ying ZHU, Peng PENG. Beihang University, P.R. China
16:55-17:05 E005	Room temperature sintering of silver nanowire flexible electrodes with salty water Z. HUI , W. GUO, Y. ZHU, Y.G. LIU, P. PENG. Beihang University, P.R. China
17:05-17:15 E010	The microstructure and mechanical properties of intermetallic joints rapidly Produced by ultrasonic-assisted transient liquid phase soldering in the Cu-Sn System Jihou LIU , Hongyun ZHAO, Zhuolin LI, Xiaoguo SONG, Hongwei NIU. Harbin Institute of Technology, P.R. China
17:15-17:25 E007	Microstructure and mechanical properties of B ₄ C/6061Al composite joints joined by spark plasma sintering Yuyang ZHANG , Wenxian WANG, Hongsheng CHEN, Lianpeng SU, Yuanqi ZHANG. Taiyuan University of Technology, P.R. China
17:25-17:35 E008	Microstructure and mechanical properties of B ₄ C/Ti composites prepared by SPS Minbo TAN , Wenxian WANG, Peng ZHANG, Hongsheng CHEN, Jinwen ZHANG. Taiyuan University of Technology, P.R. China
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40, Friday, 29th June, 2017	
PE1 E006	Research on single-sided inverter spot welding process test of enameled wire to copper foil Long CHEN , Yuan-bo LI, Yang CAO, Yong-jun ZHANG. Guangdong University of Technology, P.R. China
PE2 E058	Interfacial reaction between an electroless Ni-W-P coating and Au-Ge high temperature lead-free solder Li LIU , Changqing LIU, Jinzi CUI. Wuhan University of Technology, P.R. China
PE3 E066	Regulating the surface structure of SiO _{2f} /SiO ₂ composite for assisting in brazing with Nb Qiang MA , Junlei QI, Jicai FENG. Harbin Institute of Technology, P.R. China

F: Others

Session F1: Room 5F, Level 5 13:00-15:00, Thursday, 29th June, 2017 Chairs: Honggang DONG (P.R. China), Lianyong XU (P.R. China)	
13:00-13:15 F003	Microstructure stability during creep of friction stir welded AZ31B-H24 magnesium alloy and AA2024-T3 aluminum alloy Michael REGEV , Stefano SPIGARELLI. ORT Braude College, Israel
13:15-13:30 F019	Electromagnetic field exposure assessment of TIG-AC and CD stud welding in accordance with the EU Directive 2013/35/EU R. OTIN , R. SALMON. UKAEA/CCFE, United Kingdom
13:30-13:45 F035	A study on the notch effect of stress concentration for fatigue analysis Donghyun VAN , Xiaolong LIU, Woonggi HAWNG, Jaeseong KIM, Boyoung LEE. Korea Aerospace University, Republic of Korea
13:45-14:00 F070	A way to be good “green”: the combination of design, fabrication and economy K. JARMAI . University of Miskolc, Hungary
14:00-14:15 F102	Effect of GB character on the sensitization behavior of Al-Mg alloy Jianfeng YAN , Nathan HECKMAN, Andrea M. HODGE. University of Southern California, USA
14:15-14:30 F106	Influence of the delivery conditions to the mechanical properties of structural steels Torsten KOKOT , Steffen KEITEL. Schweißtechnische Lehr- und Versuchsanstalt Halle GmbH, Germany
14:30-14:45 F112	Behavior of carbon nanotubes during arc welding of Al-Mg alloy O. PANCHENKO , V. KARKHIN, S. IVANO. Peter the Great St. Petersburg Polytechnic University, Russia
15:00-15:15	<i>Coffee Break</i>
Session F2: Room 5F, Level 5 15:15-17:20, Thursday, 29th June, 2017 Chairs: Jian CAO (P.R. China), Linjie ZHANG (P.R. China)	
15:15-15:30 F001	Effects of hydrogen on the tensile fracture properties of AISI 304 weld metal by K-TIG welding Xiaogang LI , Baoming GONG, Caiyan DENG, Yizhe LI. Tianjin University, P.R. China
15:30-15:45 F004	Research on a novel creep rupture test for T23 water-wall tube girth weld of USC unit Yu ZHANG , Hongyang JING, Lianyong XU, Yondian HAN, Lei ZHAO. Tianjin University, P.R. China
15:45-16:00 F005	Rapid ultrasound-induced transient-liquid-phase bonding of aluminum-based materials in air for lightweight structure design Qian WANG , Lin ZHU, Jiuchun YAN, Yuntao LI, Xiaoyu ZHOU, Shengyong CHEN. Tianjin University of Technology, P.R. China
16:00-16:15 F010	A comparative study of Cu-Sn-Cu, Ag-Sn-Ag and Cu-Sn-Ag systems for transient liquid phase bonding Huakai SHAO , Aiping WU, Yudian BAO, Yue ZHAO, Lei LIU, Guisheng ZOU. Tsinghua University, P.R. China
16:15-16:30 F012	Direct soldering of SiC ceramic at low temperature by ultrasounds using a Sn-Zn-Al alloy in air Bingzhi WU , Jiuchun YAN. Harbin Institute of Technology, P.R. China
16:30-16:45 F013	Numerical analysis of the wetting and spreading behavior of arc assisted laser welding-brazing aluminum / steel joints Xiaoquan YU , Ding FAN, Jiankang HUANG, Wenwen SHENG, Chunling LI. Lanzhou University of Technology, P.R. China
16:45-17:00 F062	Effect of Al-Si5 interlayer on the interface microstructure and mechanical properties of joint for friction stir welding of aluminum alloy and steel Hui-Bin XU , Lei LUO, Pengyu GAO. Chongqing University of Technology, P.R. China
17:00-17:15 F044	Grafting modification for enhancement of laser joining CFRP to aluminum alloy Zhou ZHANG , Jiguo SHAN, Xianghu TAN. Tsinghua University, P.R. China
17:20-18:40	Poster Presentation, Foyer of Yellow River Hall, Level 3
19:00-22:00	Welcome Reception, Pearl Hall, Level 7
Session F3: Room 5F, Level 5 8:20-10:20, Friday, 30th June, 2017 Chairs: Zhenguo SUN (P.R. China), Jun XIAO (P.R. China)	
8:20-8:35 F009	TFM method with ray tracing for the detection of anisotropic weld defects Jing YANG , Bin WU, Jingpin JIAO, Cunfu HE. Beijing University of Technology, P.R. China

8:35-8:50 F050	Ray-tracing algorithm developed for ultrasonic testing of thick-walled welds Haipeng ZHOU, Zandong HAN , Yifang CHEN, Dong DU. Tsinghua University, P.R. China
8:50-9:05 F055	Influence of laser offset on laser welding-brazing of Al/brass dissimilar alloys L. ZHOU , Z. Y. LI, Z. Z. HE, Y. Y. HUANG, C. W. TAN, J. C. FENG. Harbin Institute of Technology, P.R. China
9:05-9:20 F086	Effect of laser shock peening on microstructure and mechanical properties of TB10 titanium alloy Hao SUN , Ying ZHU, Wei GUO. Beijing University of Aeronautics and Astronautics, P.R. China
9:20-9:35 F094	Experimental study of on-line monitoring for fatigue crack in weld based on Vibro-acoustic modulation technique Bin LIU , Jingbo GAO, Tie GANG. Harbin Institute of Technology, P.R. China
9:35-9:50 F107	Melting efficiency and droplet transfer of variable polarity pulse MIG welding Feng LIU , Shujun CHEN, Bin XU. Engineering Research Center of Advanced Manufacturing Technology for Automotive Components, P.R. China
9:50-10:05 F109	On the behaviors of TIG welding arc in a high frequency magnetic field Yunlong CHANG, Hong WU , Xiaolong LIU, Alexandr BABKIN and Boyoung LEE. Shenyang University of Technology, P.R. China
10:20-10:30	Coffee Break
Session F4: Room 5F, Level 5 10:30-12:30, Friday, 30th June, 2017 Chairs: Shujun CHEN (P.R. China), Hua ZHANG (P.R. China)	
10:30-10:45 F014	Effects of electromigration on the morphology and orientation of Cu ₆ Sn ₅ in Cu/liquid Sn interfacial reaction J.Y. FENG , C. J. HANG, B.L. LIU and Y.H. TIAN. Harbin Institute of Technology, P.R. China
10:45-11:00 F022	Double-pulsed VP-GTAW keyhole welding for aluminum alloy Yipeng WANG , Bojin QI, Baoqiang CONG. Beihang University, P.R. China
11:00-11:15 F024	Research on full-bridge LLC plasma inverter with SiC-based power devices Zhenmin WANG, Wenyan FAN . South China University of Technology, P.R. China
11:15-11:30 F046	Effects of micro-mechanical properties on fracture location in friction stir welds of 7050 aluminum alloy during very high cycle fatigue test Ren GAO , Caiyan DENG, Baoming GONG, Yong LIU and Dongpo WANG. Tianjin University, P.R. China
11:30-11:45 F064	Effect of friction stir processing on the corrosion and cavitation erosion behaviors of cast nickel aluminum bronze Q.N. SONG , N. XU, Y.F. BAO, Y.F. JIANG, Y.G. ZHENG, D.R. NI and Z.Y. MA. Hohai University, P.R. China
11:45-12:00 F127	Tailoring grain morphology in Ni-Cr-Fe welding product by ultrasonic hybrid gas tungsten arc welding Chen HUA , Hao LU, and Chun YU. Shanghai Jiao Tong University, P.R. China
12:00-12:15 F097	Study on microstructure, mechanical properties and corrosion resistance of fiber laser welded joints of 1-mm magnesium alloy AZ31B sheet Guangfeng LU , Linjie ZHANG. Xi'an Jiao Tong University, P.R. China
Session F5: Room 5H, Level 5 10:45-12:30, Friday, 30th June, 2017 Chairs: Zhen LUO (P.R. China), Hui LI (P.R. China)	
10:45-11:00 F006	The measurement of electrode force of resistance spot welding in a strong magnetic field Yong ZHANG, Yunyun ZHOU , Hui TENG, Tiejun MA, Wenya LI, Hongxia XIE. Northwestern Polytechnical University, P.R. China
11:00-11:15 F075	Effect of external magnetic field on the microstructure and mechanical properties of aluminum/magnesium dissimilar resistance spot welds Chaoqun ZHANG , Xuwei BAI, Ruiming CHEN, Heng ZHANG, and Yongbing LI. Shanghai Jiao Tong University, P.R. China
11:15-11:30 F077	An experimental study on contact resistance of coated galvanized steel sheet Yefeng BAO , Ling REN, Zhongtai YU, Yongfeng JIANG, Yangke. Hohai University, P.R. China
11:30-11:45 F095	Fiber laser welding of tube/plug joint of high performance molybdenum alloy: measures to improve its microstructure and mechanical properties Qinglin BAI , Linjie ZHANG. Xi'an Jiaotong University, P.R. China
11:45-12:00 F091	Effect of Nb interlayer on pulsed laser welding of Ti6Al4V to Inconel 718 Jing LIU , Xiaolong GAO, Linjie ZHANG, Jianxun ZHANG. Baoji University of Arts and Sciences, P.R. China
12:00-12:15 F021	Microstructure and mechanical property of Si ₃ N ₄ /TC ₄ joints brazed with nano-Si ₃ N ₄ particle reinforced AgCuTi composite filler Yixuan ZHAO , Xiaoguo SONG, Hongwei NIU, Shengpeng HU, Wei FU, Jicai FENG. Harbin Institute of Technology, P.R. China.

12:30-13:10	<i>Lunch</i>
Session F6: Room 5F, Level 5 13:10-15:10 Friday, 30th June, 2017 Chairs: Chunlin DONG (P.R. China), Qingxian HU (P.R. China)	
13:10-13:25 F027	Effect of Ti content on the wetting behavior of Sn _{0.3} Ag _{0.7} Cu/AlN system W. FU , X. G. SONG, Y. X. ZHAO, J. CAO, J. C. FENG. Harbin Institute of Technology, P.R. China
13:25-13:40 F039	Numerical implementation for fatigue assessment of butt joint improved by high frequency mechanical impact Caiyan DENG , Yong LIU , Baoming GONG, and Dongpo WANG. Tianjin University, P.R. China.
13:40-13:55 F040	Evolution behavior of Al ₂ O ₃ nanoparticles reinforcements during reactive air brazing and its role in improving the joint strength Xiaoqing SI , Jian CAO, Xiaoguo SONG, Zhiquan WANG, Zhijie WANG, Jicai FENG. Harbin Institute of Technology, P.R. China
13:55-14:10 F065	Modeling and simulation of porous coating materials during impact loading Juyan ZHAO , Gang MENG, Haiyan ZHAO, Jiaqi LIU, Daorong WANG, Xin LIU, Hongjie LI, Jiayun PEI. Tsinghua University, P.R. China
14:10-14:25 F079	Experimental and numerical analysis of supersonic flow of oxy-fuel cutting nozzles Yanzhe CHEN , Peng WEN, Yun ZHOU, Hui LIAO. Tsinghua University, P.R. China
14:25-14:40 F007	Effect of a magnetic field on Al/Ti dissimilar joints welded by cold metal transfer process Junzhao LI, Yibo LIU , Qingjie SUN, Jicai FENG. Harbin Institute of Technology, P.R. China
14:40-14:55 F074	Effect of single and duplex aging treatments on the microstructure and mechanical properties of laser-welded Ti-15V-3Cr-3Al-3Sn titanium alloys V. Esfahani YEGANEH , Peijie LI. Tsinghua University, P.R. China.
Session F7: Room 5H, Level 5 13:10-15:10, Friday, 30th June, 2017 Chairs: Guoliang QIN (P.R. China), Zhenmin WANG (P.R. China)	
13:10-13:25 F028	Investigation on solidification behavior of Ni-Cr-Fe alloy weld metals by confocal scanning laser microscope Xiao GUO , Peng HE, Kai XU, Wei FENG. Harbin Institute of Technology, P.R. China
13:25-13:40 F031	Influence of an AlSi ₅ filler wire on microstructures and mechanical properties of EBW-brazed CP-Al to 304 SS joint Ting WANG , Yongyun ZHANG, Feng ZHANG. Harbin Institute of Technology, P.R. China
13:40-13:55 F032	Microstructure and wear resistance of Ni ₃ Al/Cr ₃ C ₂ composite materials prepared by laser cladding Lin ZHAO , Wei HAN, Changhai LI, Yun PENG, Zhiling TIAN. Central Iron and Steel Research Institute, P.R. China
13:55-14:10 F036	Numerical prediction of fatigue design curve of welded T-joint improved by high-frequency mechanical impact (HFMI) treatment Caiyan DENG , Yaru NIU, Baoming GONG, Yong LIU, Dongpo WANG. Tianjin University, P.R. China
14:10-14:25 F038	Formation mechanism of Al ₂ O ₃ layer at the Interface of Al/Sn Weibing GUO , Jiuchun YAN. Harbin Institute of Technology, P.R. China
14:25-14:40 F041	Comparative study of microstructure and microhardness of underwater dry and wet welds of duplex stainless steel K. SUN , M. ZENG, Y.H. SHI, Y. HU, X.Q. SHEN. South China University of Technology, P.R. China
14:40-14:55 F047	A new method to evaluate welded joint mechanical properties from a load-displacement curve Shuaijie ZHAO , Ying KAN, Huaining CHEN. Institute of Metal Research, Chinese Academy of Sciences, P.R. China;
15:10-15:20	<i>Coffee Break</i>
Session F8: Room 5F, Level 5 15:20-17:20, Friday, 30th June, 2017 Chairs: Hui CHEN (P.R. China), Yongquan HAN (P.R. China)	
15:20-15:35 F052	Study on novel silver brazing filler metal bearing Ce Chaoli MA , Songbai XUE, Bo WANG. Nanjing University of Aeronautics and Astronautics, P.R. China.
15:35-15:50 F054	Effect of powders on microstructural and mechanical properties for Sn-Ag transient liquid phase bonding Yudian BAO , Aiping WU, Huakai SHAO, Yue ZHAO, Guisheng ZOU. Tsinghua University, P.R. China
15:50-16:05 F088	Vacuum-freeze drying synthesis and high catalytic performance of Fe ₂ O ₃ /graphene oxide nanocomposite Jiayun PEI , Haiyan ZHAO, Dong YAN. Tsinghua University, P.R. China
16:05-16:20 F093	Directly joining of steel to Al alloy plates in a butt configuration using autogeneous laser keyhole welding process Li CUI , Feng PAN, Dingyong HE, Li CHEN. Beijing University of Technology, P.R. China
16:20-16:35	Ultrasonic soldering of glass and Invar alloy with Sn-Ag-Cu-Mg alloy

F101	Wei CUI , Yefeng BAO, Qiang FU, Shuqi LI. Hohai University, P.R. China
16:35-16:50 F113	Study on the Influence of a novel underwater wire feeder on 304 Stainless Steel Welding Seam Zhenmin Wang, Leigang Han , Fangxiang Xie. South China University of Technology, P.R. China
Session F9: Room 5H, Level 5 15:20-17:20 Friday, 30th June, 2017 Chairs: Shuhai CHEN (P.R. China), Fan JIANG (P.R. China)	
15:20-15:35 F023	The wettability of graphite and its brazing to copper by SnAgCu-Cr alloy S. P. HU , X. G. SONG, J. CAO, W. FU, J. C. FENG. Harbin Institute of Technology, P.R. China
15:35-15:50 F037	Study on microstructure and impact toughness of TC ₄ titanium alloy diffusion bonding joint Hao ZHANG , Jinglong LI, Pingyi MA, Jiangtao XIONG, Fusheng ZHANG. Northwestern Polytechnical University, P.R. China
15:50-16:05 F053	Effects of pulse modulation on porosities of weld joints in laser welding of 5A90 aluminum-lithium alloy at vertical-down welding position Xianfeng SHEN , Wenpei HE, Shuming ZHAO, Wenhua TENG. Institute of Machinery Manufacturing Technology, China Academy of Engineering Physics, P.R. China
16:05-16:20 F057	On the role of additional CNTs on the microstructural evolution and mechanical properties in SiO ₂ -BN/Nb joints brazed by TiNi Jun Lei QI , Yu Lin LIU, Yi Heng WANG, Jin BA, Jing Huang LIN, Yu Han WAN, Jian CAO, Ji Cai FENG. Harbin Institute of Technology, P.R. China
16:20-16:35 F059	Effect of lap sequence on the welded joints of aluminum alloy 5A02 and galvanized steel DP600 keyhole-free FSSW Zhongke ZHANG , Yang YU, Chunlong XU, Jianfei ZHANG, Yunbo LIAO, Lanzhou Univ. of Tech., P.R. China
16:35-16:50 F043	Molten pool surface temperature monitoring and spectral analysis with ultra-high-frequency pulsed arc welding Ling LI , Mingxuan YANG, Hao ZHENG. Beijing University of Aeronautics and Astronautics, Beijing, P.R. China
Poster Presentation: Foyer of Yellow River Hall, Level 3 17:20-18:40, Friday, 29th June, 2017	
PF1 F002	Weldability of laser welded stainless steel/niobium joint Mingxiao SHI , Qingxian HU, Shujin CHEN, Ruifeng LI, Fangming ZHOU. Jiangsu University of Science and Technology, P.R. China
PF2 F008	Development of induction brazing heater of AC motor rotor end ring and copper bar Meiyang ZENG , Shifeng XIAO, Ping DENG. CRRC Zhuzhou motor co., LTD., P.R. China
PF3 F015	Joining of Cu ultrasonic soldered of Sn-based lead-free alloys: Advantages and Perspectives Jun-Wen LI , Lin-Lin YANG, Xuan LIU. Dalian Jiaotong University, P.R. China
PF4 F016	Change of Liquid Metals Structure by Sono-Solidification J.W. LI , L.L. YANG, X. LIU, Y.M. NIU. Dalian Jiaotong University, P.R. China
PF5 F017	A novel ultrasonic frequency pulsed GMAW technology Qiang WANG , Bojin QI, Yipeng WANG, Baoqiang CONG, Mingxuan YANG. School of Mechanical Engineering and Automation, Beihang University, P.R. China
PF6 F018	Effect of titanium addition on microstructure and impact toughness of the Fe-Cr13-C-Nb hardfacing alloy Ke YANG, Yang QU , Jiaqi LI, Kè YANG, Yefeng BAO and Yongfeng JIANG. Hohai University, P.R. China
PF7 F025	Effect of residual stresses in non-penetrating laser overlap welding joints on mechanical properties of stainless steel sheet Hang LIANG , Yunlu JIANG, Huaining CHEN, Fei LIANG. Institute of Metal Research, Chinese Academy of Sciences, P.R. China
PF8 F026	Influence of welding parameters on weld profiles in non-penetrating laser welding of stainless steel sheet Hang LIANG , Yunlu JIANG, Huaining CHEN, Yin DU. Institute of Metal Research, Chinese Academy of Sciences, P.R. China
PF9 F029	Evolution behavior of M ₂₃ C ₆ phase in Inconel 617B superalloy during welding process Shanlin LI , Zhipeng CAI, Kejian LI and Jiluan PAN. Tsinghua University, Beijing, P.R. China
PF10 F045	Study on the electrochemical behavior in stagnant 3.5% NaCl solution of 5083 joints welded by Plasma-MIG hybrid welding Detao CAI , Shanguo HAN, Shida ZHENG, Ziyi LUO, Yupeng ZHANG. China-Ukraine E.O. Paton Institute of Welding, P.R. China.
PF11 F049	Pore inhibition mechanism and corrosion characteristics for fiber laser welding joint of GH3535 superalloy Z. JIANG , W. TAO, Y. CHEN, M JIANG, and L. LI. Harbin Institute of Technology, P.R. China

PF12 F051	Microstructure and mechanical properties of friction stir weld of dissimilar Ti6Al4V titanium alloy to AA2024 aluminum alloy Yuhua CHEN , Jilin XIE, Junwei GE, Liming KE. Nanchang Hangkong University, P.R. China
PF13 F058	Measurement of internal residual stress of thick-walled pipe dissimilar welded joint using local material removal method Heping WU , Jianxun ZHANG, Wenke WANG. Xi'an Jiaotong University, P.R. China
PF14 F069	In-situ WC particles reinforced Ni-based coating by plasma spray welding of W/C/Ni45 alloy powder mixture Sihao LI , Wenxiong HE, Hongyun ZHAO, Fengyuan SHU, Guodong WANG, Jin QIN. Harbin Institute of Technology, P.R. China
PF15 F080	Groove design and modified heat source model for welding thick architectural structure plates by narrow-gap MIG method Hui LIU , Suqiang ZHANG, Fengyuan SHU, Yiming SUN, Qingtan GUO, Hongyun ZHAO. Architectural Design Institute at Yanzhou District of Jining City, P.R. China
PF16 F081	Formation improvement of aluminum-steel TIG welding-brazing joint Huan HE , Kang PENG, Chunli YANG, Sanbao LIN, Chenglei FAN. Shandong Jiaotong University, P.R. China
PF17 F085	The three-dimensional appearance of welded seam keyhole and microstructure of stainless steel plate laser welding Shuying LIU , Chao TAN, Guangbao LIU, Lei ZHANG. Henan University of Science and Technology, P.R. China
PF18 F089	Effect of thermal process on the behavior of gas source and pore formation during laser welding of AM50 die-cast magnesium alloy Jing ZHANG , Jiguo SHAN, Jialie REN, Jiashuang GAO, Xiaosong FENG, Lijie GUO. Shanghai Aerospace Equipments Manufacturer, P.R. China
PF19 F092	Effect of pulse duration and laser beam offset on microstructure and mechanical properties of welded joints for Nb/Ti6Al4V dissimilar alloys by pulsed laser welding Xiaolong GAO , Jing LIU, Linjie ZHANG, Jianxun ZHANG. Baoji University of Arts and Sciences, P.R. China
PF20 F096	Corrosion performance of WC10Co4Cr coatings by HVOF under different parameters Weihua YANG , Beijing Aeronautical Manufacturing Technology Research Institute, P.R. China
PF21 F098	Electron beam welding of titanium aluminides Jun ZHANG , Jiamiao LIANG, Haichao CUI, Lei CAO, Deliang ZHANG. Siemens Limited China, P.R. China
PF22 F100	Preliminary studies of welding possibility of cold spray coatings Aleksandra MALACHOWSKA , Tomasz PIWOWARCZYK, Marcin WINNICKI, Mateusz STACHOWICZ, Marcin KORZENIOWSKI. Wroclaw University of Technology, Poland
PF23 F104	Analysis of the effect of additional load on the girth weld failure of service pipeline Lihua QI , Fengping YANG, Zuoliang JIN, Yulei WANG, Zhenchuan WANG, Xiangyang WANG. Tubular Goods Research Center of CNPC, P.R. China
PF24 F105	The influence of electron beam welding parameters on the microstructure and mechanical properties of 2099 aluminium lithium alloy weld joints Jozef BARTA , Milan MARONEK, Miroslav SAHUL, Martin SAHUL, Andrea KUHAJDOVA. Slovak University of Technology in Bratislava, Slovak
PF25 F108	Effect of laser shock peening on fatigue fracture behavior of laser welded butt joints with different surface conditions Ziwen CAO . Beijing Aeronautic Manufacture Technology Research Institute, P.R. China
PF26 F124	Effect of Ti and M-A on impact toughness of submerged arc weld metal of Cr-Mo-V steel C.Y. HAN , Z.P. CAI, X. LIU, K.J. LI, R. CAO. Lanzhou University of Technology, P.R. China
PF28 F126	Relative motion and its relation to microstructure evolution during ultrasonic welding of copper sheet Jian LIU , Biao CAO, Jingwei YANG, Huan LI. South China University of Technology, P.R. China
PF30 F128	Research on micro-welding steel and aluminum alloy Xiaoting LI , Baohua ZHU, Jin WANG. Han's Laser Technology Co., Ltd, P.R. China
PF31 F129	Micro welding of copper and aluminum by using long pulse green laser Zhiqiang FANG , Baohua ZHU, Xiaoting LI, Jianqiang LIU, Jin WANG. Han's Laser Technology Co., Ltd, P.R. China