Session	Poster Presentation NO.	Title	Authors
Modeling and simulation	P-1	Multiscale grading of periodic materials	Zhelong He and Marek-Jerzy Pindera University of Virginia, USA
	P-2	Thermomechanical processing of Harmonic Structure Designed Low Carbon Steels	Ryohei Iritani[1], Ryuhei Kai[1], Mie Ota Kawabata[2] and Kei Ameyama[2] 1 Graduate School of Science and Engineering Ritsumeikan University, Japan 2 Collage of Science and Engineering, Ritsumeikan University, Japan
	P-3	Unique UltraFine Grain Refinement in Harmonic Structure Designed Pure Titanium by Thermo-mechanical Processing	Akito Shimamura[1], Motoki Miyakoshi[1], Mie Kawabata[2], Guy Dirras[3] and Kei Ameyama[2] 1 Gruduate School of Science and Engineering Ritsumeikan University, Japan 2 Department of Mechanical Engineering Ritsumeikan University, Japan 3 Université Paris, France
	P-4	Harmonic Structured design of SUS316L austenitic stainless steel via Powder Mixture Process	Koki Yagi[1], Morihiro Hariki[1], Masashi Nakatani[1], Mie Kawabata[2] and Kei Ameyama[2] 1 Graduate School of Science and Engineering, Ritsumeikan University, Japan 2 Collage of Science and Engineering, Ritumeikan University, Japan
	P-5	Homogenized linear and nonlinear elastic properties of a type of laminated open-cell structures with negative Poisson's ratios	K Suga[1], H Tanaka[1], D Okumura[1] and Y Shibutani[1,2] 1 Osaka University, Japan 2 Vietnam Japan University, Vietnam
	P-6	Simulation on Ejection Characteristics of High Viscous Fluid in Precision Micro-Dispensing System	Kwang-Hee Lee and Chul-Hee Lee Department of Mechanical Engineering, Inha University, South Korea
Thin film and coating	P-7	Pulsed laser deposition of $La_{0.7-x}Ho_xSr_{0.3}MnO_3$ thin film with gradient composition	Chuanbin Wang , Haixia Liu, Qiang Shen and Lianmeng Zhang State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, P. R. China
	P-8	Deformation of Harmonic Structure Designed SUS304L Austenitic Stainless Steel at Elevated Temperatures	M.Hariki[1], K.Yagi[1], M.Nakatani[1], C.Menapace[2], A.Molinari[2], K.Isonishi[3], M.O.Kawabata[4] and K.Ameyama[4] 1 Graduate School of Science and Engineering, Ritsumeikan University, Japan 2 College of Industrial Engineering, University of Trento, Italy 3 College of Education, Shiga University, Japan 4 College of Science and Engineering, Ritsumeikan University, Japan
	P-9	Effect of Si thin layer on aluminum-containing plating	Yukihiro Kang and Kazuhiko Noda Shibaura Institute of Technology, Japan
	P-10	The Effect of different annealing temperature on optical and electronic properties of ZnO/Mo/ZnO multiple thin films	Chia-Chin. Chiang[1], Tao-Hsing. Chen[1]*, Liren Tsai[1],Te-Hua Fang[1], Shih-Han Wang[2] and Bo-Lun Jiang[1] 1 Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan 2 Department of Chemical Engineering, National Yunlin University, Taiwan
	P-11	Fabrication and Microstructure of Electrodeposited Cu-based Alloy Films Having High Composition Gradient	Hiroyuki Hagiwara[1], Yoshihisa Kaneko[2] and Makoto Uchida[3] Department of Mechanical Engineering, Faculty of Engineering, Osaka City, University, Japan
	P-12	Hard Cr-B-C-N nanofilms produced by pulsed arc evaporation and magnetron sputtering of ceramic SHS-targets	Ph.V. Kiryukhantsev-Korneev, K.A. Kuptsov, A.N. Sheveyko and E.A. Levashov National University of Science and Technology “MISIS”, Russia
Thermoelectric Materials	P-13	Functionally graded metal-ceramic composite for thermal management in energy conversion system	Jehong Park[1], Seungchan Cho[2], Akira Kawasaki[3] and Kwangjae Park[4] 1 Next-Generation Materials Co., Ltd, South Korea 2 Korea Institute of Materials Science, South Korea 3 Tohoku University, Japan 4 Pukyong National University, South Korea
	P-14	Effect of Brazing on Joining Boundary of β-$FeSi_2$ Thermoelectric Material	Masachika Shibuya, Yukihiro Isoda and Yoshikazu Shinohara National Institute for Materials Science, Japan
	P-15	Unidirectional solidification and multiple diffusion couple technique as tools to accelerate the study of thermoelectric materials	Akiko Saitoh[1], Hirotoshi Nishimine[1], and Ayako Ikeda[2], and Teruyuki Ikeda[3] 1 Graduate School of Science and Engineering, Ibaraki University, Japan 2 National Institute for Materials Science, Japan 3 Department of Materials Science and Engineering, Ibaraki University, Japan
	P-16	Fabrication of thermoelectric power generation modules using Fe_2Al_5 compounds	Takeshi Souma, Keisuke Kinouchi and Shouhei Miki National Institute of Technology, Kagawa College, Takamatsu, Japan
	P-17	Single Crystallization of $Ba_8Ga_xGe_{46-x}$ Clathrate by CZ method	Ginshiro Utsumi, Hayato Baba, Shota Iwashita and Shinji Munetoh Kyushu University, Japan
	P-18	Effect of Vacancy in $Ba_8Au_xSi_{46-x}$ Clathrate on Carrier Type by Rietveld Refinement and First-Principles Calculation	Shota Iwashita, Yuki Osakabe, Shota Tatsumi, Yuichi Kotsubo and Shinji Munetoh kyushu university, Japan
	P-19	Thermoelectric Properties of $Ba_8Au_xGe_ySi_{46-x-y}$ Clathrate at High Temperature	Shinsuke Aramaki, Jyunpei Iwanaga, Yuuki Osakabe and Shinji Munetoh Kyushu University, Japan
	P-20	SPS simultaneous sintering of two powders with different melting points	Kenta Yajima, Shinsuke Aramaki and Shinji Munetoh Kyushu University, Japan
	P-21	Fabrication of single crystal $Ba_8Cu_xSi_{46-x}$ clathrate with composition gradient by two-stage Czochralski method	Hayato Baba, Yuki Osakabe, Shinji Munetoh and Osamu Furukimi Kyushu University, Japan,
	P-22	Thermoelectric properties of Functionally Graded PEDOT/PSS films Synthesized by an Original Gel Film Formation Process	Ryota Maeda[1,2], Hiroshi Kawakami[3] (formerly[2]), Yoshikazu Shinohara[2], Yoshiki Takagiwa[2] and Ikuzo Kanazawa[1] 1 Tokyo Gakugei University, Japan 2 National Institute for Materials Science (NIMS), Japan 3 New Energy and Industrial Technology Development Organization (NEDO), Japan

Session	Poster Presentation NO.	Title	Authors
Surface and Interface	P-23	Crystal Structure and Magnetism of Diffusion Phase in High Purity Fe/Si Diffusion Reaction System	X. Ren[1], Z. Lei[2], K. Matsuyama[1], I. Sasaki[1], M. Takezawa[1], H. Era[1] and T. Ogawa[3] 1 Kyushu Institute of Technology, Japan 2 Nippon Koshuha Steel, Japan 3 Fukuoka Industrial Technology Center, Japan
	P-24	Graded Coating of Al-Cu Alloy with Ti-N Film by Reactive DC Sputtering	Tsutomu Sonoda and Akira Watazu National Institute of Advanced Industrial Science and Technology (AIST),
Biological and Optical Functions	P-25	White oxide coating of β Ti-alloy orthodontic wire by atmospheric-pressure plasma treatment	Naho Mitsuishi[1], Eri Miura-Fujiwara[2], Makoto Yamada[1], Michiko Ito[3], Tadachika Chiba[1], Hisashi Sato[1], Masaaki Nakai[4], Toshikazu Akahori[5], Seigo Takashima[3], Yoshimi Watanabe[1], Mitstuo Niinomi[5,6,7,8] and Tsutomu Takeuchi[9] 1 Nagoya Institute of Technology, Japan; 2 University of Hyogo, Japan; 3 PLACIA, Plasma Center for Industrial Applications, Nagoya Industries Promotion Corporation, Japan; 4 Kinki University, Japan: 5 Meijo University, Japan; 6 Tohoku University, Japan; 7 Osaka University, Japan; 8 Nagoya University, Japan; 9 Takeuchi Katan Ltd., Japan
	P-26	Evaluation of Optical Properties on FGPJ between Cu and SUS304 for Quality Assurance	Kazuki Iwakiri and Kouichi Nakano Graduate School of Life Science and Systems Engineering Kyushu Institute of Technology, Japan
	P-27	Production of Nano-devices for Cancer Therapy Using Ultra Sonication in Liquid Carbon Dioxide	Eito Arita[1], Kenji Mishima[1,2], Tanjina Sharmin[1,2], Taku M. Aida[1,2], Miyuki and Nakamura[1,2] 1 Department of Chemical Engineering, Faculty of Engineering, Fukuoka University, Japan 2 Research Center of Composite Material, Fukuoka University, Japan
	P-28	Microencapsulation of Drugs with pH-responsive Polymer for Controlled Release of Drug by PGSS Process of CO_2	Ryunosuke Mitani[1], Kenji Mishima[1,2], Tanjina Sharmin[1,2], Taku M. Aida[1,2] and Miyuki Nakamura[1,2] 1 Department of Chemical Engineering, Faculty of Engineering, Fukuoka University, Japan 2 Research Center of Composite Material, Fukuoka University, Japan
	P-29	Production of Liposome Using Ultrasonic Irradiation and High Pressure Cell	Hiroyuki Tashiro[1], Kenji Mishima[1,2], Taku M. Aida[1,2], Tanjina Sharmin[1,2] and Miyuki Nakamura[1,2] 1 Department of Chemical Engineering, Faculty of Engineering, Fukuoka University, Japan 2 Research Center of Composite Material, Fukuoka University, Japan
Multifunctions	P-30	Fabrication and characterization of Al-SUS316L FGMs manufactured by spark plasma sintering	Kwangjae Park[1], Dasom Kim[1], Jehong Park[2], Seungchan Cho[3], Akira Kawasaki[4], Kwonhoo Kim[1] and Hansang Kwon[1,2] 1 Pukyong National University, South Korea 2 Next-Generation Materials Co., Ltd. (NGM), South Korea 3 Korea Institute of Materials Science, South Korea 4 Tohoku University, Japan
	P-31	Tangle deformation of elastic loop-structures with multiple revolute hinges under uniform compression in a circumferential direction	H Tanaka[1], T Nanjo[1] and Y Shibutani[1,2] 1 Osaka University,Japan 2 Vietnam Japan University
	P-32	Single Crystallization Of $Ba_8Pt_xSi_{46-x}$ Clathrate For Improvement Of Thermoelectric Properties	Masahide Yasuda, Hayato Baba, Yuki Osakabe and Shinji Munetoh Kyushu University, Japan
	P-33	Manufacturing P- and N-type polycrystalline $Ba_8Pt_xSi_{46-x}$ clathrates and improvement of thermoelectric performance	Yuichiro Magami, Shota Iwashita, Yuki Osakabe and Shinji Munetoh Kyushu University, Japan
Structural Analysis and Design	P-34	Improvement of Mechanical Properties of Harmonic Structure Nickel Compact via Thermo-Mechanical Processing	M. Nagata[1], N. Horikawa[1,2], M. Nakatani[1], M. Ota[3] and K. Ameyama[3] 1 Graduate School of Science and Engineering, Ritsumeikan University, Japan 2 Komatsu Ltd., Tokyo, Japan 3 Department of Mechanical Engineering, Ritsumeikan University, Japan
	P-35	Preparation and Characterization of Four-Point Bending Properties of Cellulose Nanofiber/Epoxy Composites	Yingmei Xie, Kenichi Katabira and Fumio Narita Department of Materials Processing, Graduate School of Engineering, Tohoku University, Japan
	P-36	Development and Characterization of Fe-Co Magnetostrictive Filler/Polymer Composite Sheets	Zhenjin Wang, Zhenjun Yang, Kenichi Katabira and Fumio Narita Department of Materials Processing, Graduate School of Engineering, Tohoku University, Japan
	P-37	The numerical calculation and characteristic analysis on quasi-isentropic loading waves by the Mg-Cu graded density materials	Chengcheng Zhang[1], Guoqiang Luo[1], Qiang Shen[1,] *,Jian Zhang[1], Lianmeng Zhang[1] and Jinsong Bai[2] 1 State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, P. R. China 2 National Key Laboratory of Shock Wave and Detonation Physics, China Academy of Engineering Physics Institute of Fluid Physics, P. R. China
Processing	P-38	Mechanical Properties of Thermo-mechanically Processed Pure Titanium with Harmonic Structure	Motoki Miyakoshi[1], Akito Shimamura[1], Mie Kawabata[2], Guy Dirras[3] and Kei Ameyama[2] 1 Gruduate School of Science and Engineering Ritsumeikan University, Japan 2 Department of Mechanical Engineering Ritsumeikan University, Japan 3 Université Paris, France
	P-39	Structural control and bonding strength evaluation of Fe/resin joints via functionally graded interpenetrating phase layer	Kazuki Noritake, Asuka Suzuki, Naoki Takata, Makoto Kobashi Department of Materials Process Engineering, Graduate school of Engineering, Nagoya University, Japan
	P-40	High Performance Titanium Fabrication by Dehydrogenation of TiH_2 Powder	Shogo Yamada[1], Mie Kawabata[2] and Kei Ameyama[2] 1 Guraduate school of Mechanical Engineering, Ritsumeikan University, Japan 2 Department of Mechanical Engineering, Ritsumeikan University, Japan
	P-41	Unique Deformation Behavior of Cu-9at%Ge Alloy with Harmonic Structure	Naoya Harima[1], Shuichi Morinaka[1], Mie Kawabata[2], Kei Ameyama[2] and Alexsei Vinogradov[3] 1 Graduate school, Ritsumeikan University, Japan 2 Faculty of Science and Engineering, Ritsumeikan University, Japan 3 Faculty of Science and Engineering, NTNU, Norway
	P-42	Investigation of Various Factors on Strength of Plaster 3D Printing Mold	Sohei Hasegawa, Tsukusi Kii, Hisashi Sato and Yoshimi Watanabe Nagoya Institute of Technology, Japan
	P-43	Heterogeneity of sintering temperature in the boundary between different materials and graphite die on Spark Plasma Sintering Process	Tatsuya Misawa[1], Takumi Sakamaki[2], Yuji Kawakami[3] and Masakazu Kawahara[4] 1 Department of Electrical and Electronic Engineering, Faculty of Science and Engineering, Saga University, Japan 2 Advanced Engineering School, National Institute of Technology, Kurume Collage, Japan 3 Department of Materials System Engineering, National Institute of Technology, Kurume Collage, Japan 4 Kawahara SPS Technical Office, Japan

Session	Poster Presentation NO.	Title	Authors
Manufacturing	P-44	Porous Graded Tungsten by Tape-casting using Temporary Space-holder	Jian Zhang, Shuai Ge, Dongqing Zhou, Guoqiang Luo, Qiang Shen and Lianmeng Zhang State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, P. R. China,
	P-45	Harmonic Structure Design of Al and Al Alloys by SPD-PM Process	Kazuaki Aoi[1], Takayuki Sahara[2], Mie Kawabata[3] and Kei Ameyama[3] 1 Graduate School of Science and Engineering, Ritsumeikan University, Japan 2 Mitsubishi Logisnext Co.LTD, Japan 3 Faculty of Science and Engineering, Ritsumeikan University, Japan
	P-46	Fabrication And Characterization Of Functionally Graded Fe/W Composites	S. Heuer[1], J. Matejícek[2], M. Vilémová[2], T. Lienig[1], G. Pintsuk[1], J.W. Coenen[1], W. Theisen[3] and Ch. Linsmeier[1] 1 Forschungszentrum Jülich GmbH, Institut für Energie und Klimaforschung - Plasmaphysik, Germany 2 Institute of Plasma Physics AS CR, v. v. i., Department of Materials, Engineering, Czech Republic 3 Lehrstuhl Werkstofftechnik, Ruhr-Universität Bochum, Germany