



INTERNATIONAL INSTITUTE OF WELDING

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Annual Assembly Singapore 2023

Draft Agenda

Joint Meeting of C-I, C-IV and C-XII “Welding/joining and additive manufacturing technology” July18, 2023

**Chair: Doug Kautz(USA), Chairman of C-I
Dr. Herbert Staufer(Austria), Chairman of C-IV
Prof. Satoru Asai (Japan), Chairman of C-XII**

Tuesday 18 July 2023, 0830 -1800 @ TBD

(Morning Session, 0830-1230)

0830: Opening of Joint Meeting of C-I, C-IV and C-XII – Prof. Satoru Asai

Session 1 : Chair: Prof. Satoru Asai, Chairman of Comm.XII

- [1] Tailoring grain structure of laser powder bed fusion processed nickel alloy via layer-wised thermal gradient control strategies
Jie Zhu, Kai Feng, Zhuguo Li (China)
Doc. XII-2604-2023/ I-1549-2023/IV-1572-2023
- [2] Microstructure control and strengthening of LaF₃ nano-particles reinforced CrCoNi medium entropy alloy fabricated by selective laser melting
Yiwei Yu, Kai Feng, Zhuguo Li, Bolun Han, Chengcheng Zhang, Jie Zhu (China)
Doc. XII-2605-2023/ I-1550-2023/IV-1573-2023
- [3] Pore defect reduction technique based on direct observation of bubble generation processes during laser metal deposition
Keigo Tanaka, Takuto Yamaguchi, Hideki Hagino (Japan)
Doc. XII-2606-2023/ I-1551-2023/IV-1574-2023
- [4] Dynamic keyhole behaviors in laser processing of a medium-entropy alloy
Dongsheng Wu, Hisaya Komen, Manabu Tanaka, Ninshu Ma, Zihan Li, Yuan Li, Youxiong Ye, Tao Sun (China)
Doc. XII-2610-2023/I-1552-2023/IV-1575-2023
- [5] Modification of microstructure and mechanical property of twin-wire directed energy deposition-arc fabricated TiAl-4822 alloy via process current
Chen Shen, Wenlu Zhou , Yuelong Zhang , Lin Wang, Fang Li, Xueming Hua (China)
Doc.XII-2598-2023/ I-1553-2023/IV-1576-2023

10:20 Visit of WitW editor

Coffee Break (1030– 1100)

Session 2: Chair: Prof. Satoru Asai, Chairman of Comm.XII

- [6] Probing Build Profile in Gas Metal Arc Directed Energy Deposition
Sanghamitra Das, Prashant Kumar Chaurasia, Amitava De (India)
Doc. XII-2593-2023/I-1557-2023/IV-1577-2023
- [7] Multi-physical modelling of element inhomogeneity phenomenon in TW-DED-Arc fabricated γ -TiAl Alloy
Jianwen Xin, Dongsheng Wu, Chen Shen, Hisaya Komen, Manabu Tanaka, Xueming Hua, Fang Li (China)
Doc.XII-2599-2023/ I-1558-2023/ IV-1578-2023
- [8] Relieving anisotropy of mechanical properties by optimization of microstructure through ultrasonic vibration assisted laser direct deposition
Chun Yu, Jijin Xu, Zhiyuan Yu, Junmei Chen, Hao Lu (China)
Doc. XII-2600-2023/I-1559-2023/IV-1557-2023
- [9] Probing Dimensional Consistency during Multi-track Multi-layer Gas Metal Arc Directed Energy Deposition of Aluminium Alloys
Prashant Kumar Chaurasia, Birendra Kumar Barik, Atanu Das, Sven F Goecke, Amitava De (India)
Doc. XII-2602-2023/ I-1560-2023/IV-1579-2023

(Afternoon Session, 1400-1830)

Session 3: Chair: Dr. Herbert Staufer, Chairman of Comm.IV

- [10] Comparison new joining approaches of mixed materials for highly loaded light weight and high temperature application such as ceramics connected to metal among others
Dirk Dittrich (Germany)
Doc. XII-2627-2023/I-1554-2023/IV-1557-2023
- [11] Towards Improving Computational Efficiency of Thermomechanical Model for Laser Powder Bed Fusion
Neelima Patnaikuni, Kajal Khan, Amitava De (India)
Doc. XII-2628-2023/ I-1555-2023/IV-1556-2023
- [12] Development of Hot-wire Laser Additive Manufacturing for Dissimilar Materials of Stainless steel/Aluminum alloys
Keita MARUMOTO, Takahiro HOURAI, Daiji MORITA, Chisako ODA, Takafumi FUJII, Takashi YUZAWA, Ryogo KOBAYASHI, Motomichi YAMAMOTO (Japan)
Doc. XII-2629-2023/ I-1556-2023/IV-1458-2023
- [13] Mechanical and microstructural investigation of Laser+Wire DED deposited thin walled stainless steel structures
M. Ghasempoor-Mouziraji, N. Helthuis, I. Gibson, D. Alonso, C. Goulas
Doc. XII-2630-2023/I-1563-2023/IV-1562-2023
- [14] Potential of thermography for the monitoring of the WAAM process
Johanna Müller, Jonas Hensel (Germany)
Doc. XII-2631-2023/I-1532-2023/IV-1580-2023
- [15] Modelling tools and use for digital quality control in AM and welding
Jialuo Ding, Yongle Sun, Xin Chen, Pradeeptta Taraphdar, Alireza Mosalman Haghighi, Stewart Williams, Murugaiyan Amirthalingam (UK)
Doc.XII-2632-2023/ I-1535-2023/ IV-1581-2023

Coffee Break (1600 – 1630)

Session IV: Chair: Doug Kautz, Chairman of Comm.I

- [16] In-situ alloying with elementary powders in additive manufacturing
Kevin Hoefler, Phillip Schmidt, Jonas Hensel (Germany)

- Doc. XII-2633-2023/I-1533-2023/IV-1582-2023
- [17] Analysis of resulting component properties of 3D-graded additive structures made of iron and nickel-based material by 3DPMD
Robert Rimpl, André Hälsig, Kevin Hofer, Jonas Hensel (Germany)
Doc. XII-2634-2023/ I-1534-2023/Doc. IV-1583-2023
- [18] New processes and digitalisation for AM application to welding and rapid qualification
Stewart Williams, Jialuo Ding, Wojciech Suder, Jian Qin, Shakirudeen Lasisi (UK)
Doc. XII-2635-2023/ I-1536-2023/Doc. IV-1584-2023
- [19] Superior quality and performance levels for aluminium wires for DED AM
Lingling Ren, Zhenbiao Wang, Chengde Li, Shuai Wang, Jialuo Ding, Stewart Williams (China)
Doc. XII-2636-2023/ I-1537-2023/Doc. IV-1585-2023

1750: Close Out of Joint Meeting of C-I, C-IV, and C-XII