



**INTERNATIONAL INSTITUTE OF WELDING**  
A world of joining experience

**Doc.IV-1525-2022**

**Annual Assembly Meeting, 2022**

**Agenda Commission IV "Power Beam Processes"  
July 20 - 21, 2022**

**Tokyo**

**Chair: Dr. Herbert Staufer (Austria)**

**Wednesday 20 July, 14:00h – 18:00h JST, Room Niji**

1. Opening the Meeting
2. Request volunteer to write the Minutes of Meeting
3. Adoption and Agreement of Agenda (Doc. IV-1525-2022)
4. Brief report on Joint Intermediate Online Meeting on March 2022
5. Presentation of documents

**(Session chairman: Dr. Patrick Hochanadel, Vice Chairman Comm.IV)**

[1] Doc.IV-1512-2022

Effects of Variable Composition on Dissimilar Electron Beam Welding of Commercially Pure Iron and Nickel

Joris Hochanadel, Boyd Pantan, Carolin Fink, John Lippold, US

[2] Doc.IV-1505-2022

Influence of energy distribution on porosity during EBW of thin-walled aluminum components

Matthias Moschinger, Austria

[3] Doc.IV-1514-2022

Influence of PWHT on S960QL high strength structural steel electron beam welded joint  
Raghawendra P. S. Sisodia, Erika Hodúlová, Sahul Miroslav, Marcell Gáspár, Hungary

[4] Doc.IV-1507-2022

Local vacuum Electron Beam and laser solutions in New Energy applications – new developments and regulatory position

Chris Punshon, UK

[5] Doc.IV-1508-2022

Interaction of Protective Gas with Process Emissions in Vacuum Laser Welding

Max Nentwich, UK

### **Coffee break**

#### **(Session chairman: Giovanni Garbarino)**

[6] Doc.IV-1487-2022

Analysis of input parameters on the laser welding process of hairpin windings in electric drives

Markus Omlor, Niklas Seitz, Ann-Christin Hesse, Klaus Dilger, Germany

[7] Doc.IV-1506-2022

Electron beam welding of electrical conductors for electric vehicles

Alex O Farrell, UK

[8] Doc.IV-1501-2022 ([online Video presentation](#))

Dissimilar micro beam welding of Titanium to Nitinol & Stainless Steel using biocompatible filler materials for medical applications

Michael Wiegand, Germany

[9] Doc.IV-1502-2022

Pulsed Laser Beam Welding of Ferritic Stainless Steels – Avenue to Controllable Grain Growth and Precipitation Behavior

Niklas Sommer, Germany

[10] Doc.IV-1526-2022

Impact of Laser Surface Texturing in the increase of energy efficiency in the white goods sector

T. Delgad, C. Alleaume, J. Illad, N. Otero, Y. Ko, M. Metin, M. Atila, Kübra Çalışır, Abdullah Sert, P. Catarin, R.Bola, Belgium

**Thursday 21 July, 14:00h – 18:00h JST, Room Concerto**

**(Session chairman: Dr. Peer Woizeschke, Chairman Sub-Comm. IV-A) ([online](#))**

[11] Doc.IV-1503-2022

Investigations on laser beam welding of hot crack-sensitive high-strength wrought aluminum alloys and pore-sensitive die-cast alloys using dynamic beam oscillation  
Benjamin Keßler, Germany

[12] Doc.IV-1509-2022

Keyhole-in-keyhole formation by adding a coaxially superimposed single-mode laser beam in disk laser deep penetration welding  
Möbus Marcel, Pordzik Ronald, Woizeschke Peer, Germany

[13] Doc.IV-1513-2022

An investigation of keyhole dynamics and porosity mitigation in laser beam welding with external magnetic field  
Xiangmeng Meng, Marcel Bachmann, Antoni Artinov, Michael Rethmeier, Germany

[14] Doc.IV-1527-2022

In-Situ Process Analysis of Laser Welding by Temporally and Spatially Mapped Radiation Reflection Measurements  
Moritz Wittemer, Andreas Wimmer, Katrin Wudy, Germany

**Coffee break**

**(Session chairman: Chris Punshon)**

[15] Doc.IV-1515-2022

Bead-on plate welding of copper with 1.5kW high-power blue diode laser  
Keisuke Takenaka, Yuji Sato, Masahiro Tsukamoto, Japan.

[16] Doc.IV-1516-2022

Influential factors on mechanical properties of steel/aluminum-alloy dissimilar flare-V groove joint made by high-speed hot-wire laser brazing technology  
Tamaki Ito, Koichi Taniguchi, Yasuaki Okita, Hiroshi Matsuda, Satoshi Igi, Jeongwon Choi, Motomichi Yamamoto, Japan

[17] Doc.IV-1510-2022

Features of formation of thin-sheet joints during laser-plasma welding of steels and aluminum alloys  
Illiashenko Ye, Korzhyk V, Haskin V. Grynyuk A, Peleshenko S., Ukraine

[18] Doc.IV-1500-2022

Direction independent laser-GMA hybrid welding with coaxial wire feed and ring focus  
Michael Clemens, Germany

6. Structure of chairs and sub-chairs of C-IV
7. Recommendation of publication for IIW Journal “Welding in the World”
8. Date and place of the next Annual Assembly (76th Annual Assembly, July 2023)
9. Miscellaneous
10. Closure the meeting