



C-XII Physics of welding

Draft Agenda Annual Assembly 2025

XIX-0001-2025

Author:

Comments: [Comments]

1. Agenda for the meetings

Monday 23 June 2025

Time	Item	Resp.	Action
14.00	1. Introduction		
	1.1. Opening of the Meeting		Information
	1.2. Presentation by IIW Staff		Information
	1.3. Attendees and Apologies, Identification of C-XIX delegates		Information
	1.4. Adoption and Agreement of Agenda		Motion required
	1.5. Direction and topics of Comm. XIX		Motion required
14.45	2. Presentation of documents	Authors	Information
14.45	2.1. Session I		
16.45	2.2. Session II		
18:05	Close of Day 1 Activities		

Wednesday 25 June 2025

Time	Item	Resp.	Action
14.00	3. Opening and Welcome		Information
14.00	4. Presentation of documents	Authors	Information
14.00	4.1. Session III		Information
16.50	4.2. Session VI		Information
17.30	5. Recommendation of submission to IIW Journal "Welding in the World"		Motion required
	6. Structure of Commission XII		Motion required
	7. Date and place of next meeting		Motion required
17:40	Close Out of Commission XII		Information

2. Members’ List

First name	Last name	Role	IIW user/e-mail	Country

Annex: Presentation of Documents

Annual Assembly, Genoa, Italy

Centro Congressi Porto Antico Via Magazzini del Cotone,

59 16128, Genova Italy

C-XIX: Physics of welding

June 23 - 25, 2025

Room: Listed by day of meeting

Monday 23 June 2025, 1400 – 1800 @ Grecale (OPZ.)

CommissionXIX Meeting

1415: Session I

Session chair:

- [01] 1415: Elucidation of alkali element's role in optimizing metal transfer behaviour in rutile-type flux-cored arc welding
Dang Khoi Lea, Shinichi Tashiroa, Quang Ngoc Trinhb, Tetsuo Sugaa, Naoki Sawamura, Kazuhiro Fukadac, Shuji Sasakurac, J. Eduardo Alvarez-Rochad, Patricio Fernando Mendezd, Anthony B. Murphye, Van Hanh Buib, Manabu Tanakaa (Japan, Vietnam, Canada, Australia)
Doc. XIX-0002-2025
- [02] 1435: Numerical simulation of hydrogen behavior in arc plasma during gas metal arc welding using flux cored wire
Yu Yoshimura, Hisaya Komen, Manabu Tanaka, Kotaro Watanabe (Japan)
Doc. XIX-0003-2025
- [03] 1455: Optimization of metal transfer in rutile flux-cored arc welding through controlled CO2 concentration in argon-CO2 shielding gas
Shinichi Tashiroa, Ngoc Quang Trinhb, Khoi Dang Lea, Tetsuo Sugaa, Shuji Sasakurac, Kazuhiro Fukudac, Anthony B. Murphy, Hanh Van Buib, Manabu Tanaka (Japan)
Doc. XIX-0004-2025
- [04] 1515: Numerical Investigation on Dominant Factor of Metal Transfer Using Inertia in Wire Feed Controlled GMAW Process
Hisaya Komen, Yuki Kobayashi, Shota Sekiguchi, Naoki Mukai, Kei Yamazaki, Manabu Tanaka (Japan)
Doc. XIX-0005-2025
- [05] 1535: Application Study of Wire Feed Controlled GMAW Process Using Inertia for Droplet Transfer
Shota Sekiguchi, Naoki Mukai, Kei Yamazaki, Hisaya Komen, Manabu Tanaka (Japan)
Doc. XIX-0006-2025
- [06] 1555: Influence of Pulse Frequency on Heat and Mass Transfer in Ultrasonic Frequency Pulse Current-Assisted Underwater Wet Flux-Cored Arc Welding
Ji Chen, Xuefei Cui, Hao Su, Shengli Li, Chuansong Wu (China)
Doc. XIX-0007-2025

1615-1645: Coffee break

Session chair:

- [07] 1645: Spatter generation mechanism during tungsten inert gas welding using argon-nitrogen mixed gas
Keigo Tanaka, Takuto Yamaguchi(Japan)
Doc. XIX-0008-2025
- [08] 1705: Metal transfer and bead formation control by wire feeding control in Al-MIG welding process
Yosuke Ogino, Toshiki Maruyama, Tomokazu Sano(Japan)
Doc. XIX-0009-2025
- [09] 1725: A Prosoity Elimination method for oscillating laser welding of 5A06 aluminum alloy via parameter optimization based on numerical simulation
Roman Selin, Serhiy Akhonin, Valeriy Bilous, Serhiy Schwab (Ukraine)
Doc. XIX-0010-2025

ONLINE

- [10] 1745: Experimental studies of the features of high-frequency pulsed TIG welding of stainless steel
R Dmytro Kovalenko, Igor Krivtsun, Oleksii Pavlov, Oleg Mokrov, Alexander Biber (Ukraine)
Doc. XIX-0011-2025

Close of Day 1 Activities

Wednesday 25 June 2025, 1400 – 1800 @ Grecale (OPZ.)

Session chair:

1400: Opening and Welcome

- [11] 1400: Study of the effect of the super-imposition current During globular Transfer in CO2 Welding
NOGUCHI Takahiro, KASANO Kazuki (Japan)
Doc. XIX-0012-2025
- [12] 1420: Current Distribution Modeling and Posture Optimization for Grooved GMAW Joints Based on Arc Plasma Simulations
Feng Shi, Hui Jin(China)
Doc. XIX-0013-2025
- [13] 1440: Influence of metal vapor evaporated from weld pool on arc behavior in TIG welding
Kazuma Higashiguchi, Hisaya Komen, Manabu Tanaka, Tadasuke MURATA, Akihisa MURATA(Japan)
Doc. XIX-0014-2025
- [14] 1500: Analysis of molten pool behaviour for GMAW cladding process for narrow wall thickness
Gwang-Ho Jeong, Sang-Hyun Ahn, Dae-Hwan Kim, Dae-Won Cho, Young Tae Cho (Korea)
Doc. XIX-0015-2025
- [15] 1520: Physics and Mathematics of Heat Transfer for Practical Calculation of Bead Features in Welding and Additive Manufacturing
Patricio F. Mendez, Nitheesh Kumar(Canada)
Doc. XIX-0016-2025
- [16] 1540: Development of additive manufacturing process by arc plasma driven metal jet
Yoichi Doi, Ryusei Furukubo, Tomokazu Sano, Yosuke Ogino(Japan)
Doc. XIX-0017-2025
- [17] 1600: Physics of high-frequency electric resistance welding (HF-ERW): The relationship between weld point location and process parameters in HF-ERW of tubular products
Daniele D. G. Calista, Greg R. Lehnhoff, Patricio F. Mendez(Canada)
Doc. XIX-0018-2025

1620-1650: Coffee break

Session chair:

[18] 1650: Interfacial Si-O coordination for inhibiting the graphite phase enables superior SiC/Nb heterostructure joining by AuNi

Li Peixin ()

Doc. XIX-0019-2025

[19] 1710:A Prosoity Elimination method for oscillating laser welding of 5A06 aluminum alloy via parameter optimization based on numerical simulation. (China)

Doc. XIX-0020-2025