

THE NATIONAL ACADEMY OF SCIENCES OF UKRAINE
THE E.O. PATON ELECTRIC WELDING INSTITUTE
OF THE NAS OF UKRAINE
INTERNATIONAL INSTITUTE OF WELDING
INTERNATIONAL ASSOCIATION «WELDING»



International Conference

WELDING AND RELATED TECHNOLOGIES - PRESENT AND FUTURE

Devoted to the centenary of the National academy of sciences of
Ukraine
5-6 December, 2018
Kyiv, Ukraine

Third circular

Information support-
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REATISS

STEEL WORK

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Centre of Electron Beam Welding of the PWI

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M. Mochizuki, Yu. Okamoto

VENUE

The Conference will be held at the E.O. Paton Electric Welding Institute of the National Academy of Sciences of Ukraine, 11 Kazimir Malevich Str., Kyiv (poster papers) and at the Conference Center «DEPO», 52 Antonovich Str., Kyiv (plenary papers, youth section).

REGISTRATION

The registration of the Conference participants will take place at the lobby of the E.O. Paton Electric Welding Institute (building 4) on December 4, 2018 from 8.00 am to 6.00 pm and on December 5 at the lobby of the Conference Center «DEPO» from 8.00 to 12 am.

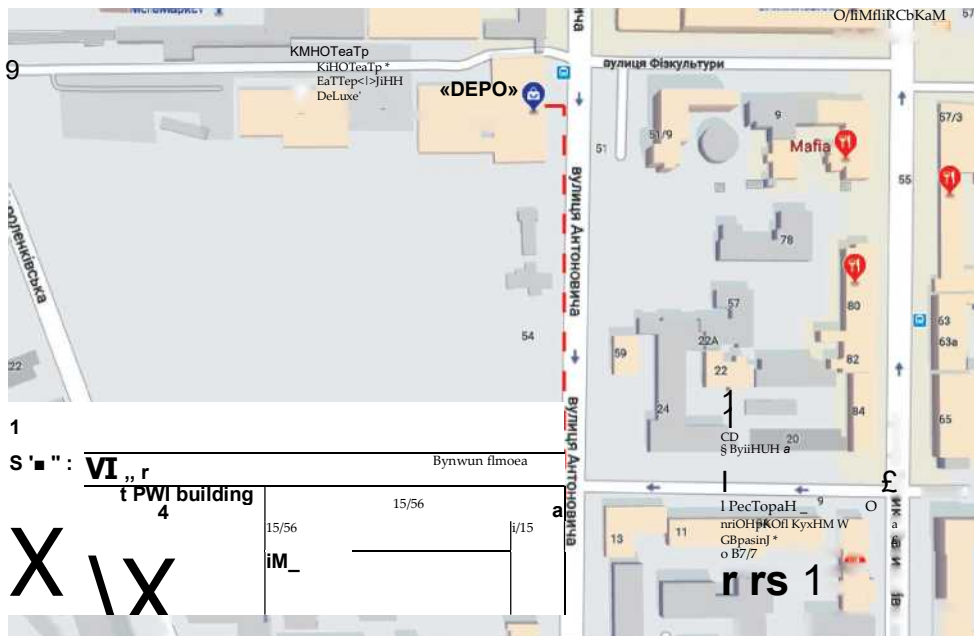
CONFERENCE SCHEDULE

1. Opening of the Conference. The first and second Plenary sessions will be on December 5 from 10.00 am to 6.00 pm at the Conference Center «DEPO» (Conference hall «Indigo»).

2. Plenary session on December 6 will be at the Conference Center «DEPO» (Conference hall «Violet») from 9.00 am to 2.00 pm.

3. Meeting of youth section «Welding and Related Technologies». Beginning of work on December 6 at 9.00 am at the Conference Center «DEPO» (Conference hall «Library»).

4. Poster session will be on December 6 from 3.00 pm at the reading hall of the Paton Institute library, building 4, 2nd floor.



CONFERENCE FEE

Registration fee is 350 US dollars or 300 Euro. The registration fee includes: the expenses for publication of Proceedings of plenary session papers, reception, banquet, coffee and tea breaks and others.

The registration fee can be paid during registration or transferred to the following banks:

For US dollars

Deutsche Bank Trust Company

Americas, New York, USA

SWIFT/BIC: BKTR US 33

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UKREXIMBANK, Kyiv, Ukraine

Ukraine, 03150, Kyiv, 127 Antonovycha Str.

Account # 2600801283433/840

SWIFT: EXBSUAUX International

Association «Welding»

11, Bozhenko Str., 03150, Kyiv, Ukraine

For EUR

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SWIFT: EXBSUAUX International

Association «Welding»

11, Bozhenko Str., 03150, Kyiv, Ukraine

It is possible to pay fee during registration.

VISAS

To obtain visa, You will need an official invitation. We kindly ask You to fill the enclosed registration form, indicating Your name, date of birth and passport number, and we will send You the official letter of invitation on the grounds of which You can get Your entry visa to Ukraine at the Embassy of Ukraine in Your country.

(EU countries, USA, Canada, South Korea, Brazil, Japan, Turkey, Serbia & Montenegro, Macedonia do not need visa).

HOTELS

The central hotels of the city are offered to the Conference participants:

«GREGUAR»

67/7, Velyka Vasytkivska str.

Tel.: (38044) 498-97-90

E-mail: info@gregar.com.ua, www.gregar.com.ua «DNIPRO»

1/2, Khreshchatyk str.

Tel.: (38044) 254-67-77; tel./fax: 254-67-37 E-mail:

reservation@dniprohotel.ua, www.dniprohotel.ua «EVROPEYSKIY»

14 A, Delovaya str.

Tel.: (38044) 200-10-48

E-mail: info@hotel-evropeyskiy.kiev.ua, www.hotel-evropeyskiy.kiev.ua

«KHRESCHATYK»

14, Khreshchatyk str.

Tel.: (38044) 596-80-00; fax: 596-80-01 E-mail: [reservation@hotel-](mailto:reservation@hotel-khreshchatyk.ua)

[khreshchatyk.ua](http://www.hotel-khreshchatyk.kiev.ua) www.hotel-khreshchatyk.kiev.ua «UKRAINE»

4, Instytutska str.

Tel.: (38044) 278-28-04

E-mail: reservation@ukraine-hotel.kiev.ua, www.ukraine-hotel.kiev.ua

«PRESIDENT-HOTEL»

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Tel.: (38044) 256-38-56; fax: 256-32-54

E-mail: reservation@presidenthotel.com.ua,

www.presidenthotel.com.ua «MIR»

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reservation@hotelmir.kiev.ua, www.hotelmir.kiev.ua «DRUZHBA»

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4, Hospitalna str.

Tel.: (38044) 256-40-20; fax: 289-43-96

E-mail: reservation@hotelrus.kiev.ua, www.hotelrus.phnr.com

It is possible to reserve the hotel yourself.

PRESENTATION OF PLENARY PAPERS

To present the plenary paper, 20 minutes will be given. Demonstration of plenary papers will be provided with proper office equipment.

PRESENTATION OF POSTER PAPERS

Poster papers will be systematized by scientific directions and arranged in a reading hall of the Paton Institute library (building 4, 2nd floor). Requirements for preparation of poster papers are as follows:

- poster papers should be arranged on one or two boards of size: A1 - 90 cm (width) * 60 cm (height);
- at the top the names of authors and title of the paper should be written English;
- below, the scientific information is arranged.

THE WORKING LANGUAGES OF THE CONFERENCE:

Ukrainian, Russian and English.

ORGANIZING COMMITTEE OF THE CONFERENCE

Chairman - Prof. L. Lobanov Tel. (38044) 200-24-55

Scientific Secretary - Dr. O. Babaev
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www.paton100.org

PROGRAM OF THE CONFERENCE

December 5, 2018

Plenary Session

Conference Center «DEPO» (Conference hall «Indigo»),
52 Antonovich Srt.

Beginning of work at 10.00 am

OPENING OF THE CONFERENCE

- Musical Welcome
- Official Welcome

PLENARY PAPERS

1. Present research and developments of the E.O. Paton Electric Welding Institute in the field of welding and related technologies. **Prof. B.E. Paton (Ukraine).**
2. Chinese-Ukrainian E.O. Paton Welding Institute: the innovative platform of the international scientific-technical cooperation in the field of welding and related technologies. Achievements and new feasibilities. **Prof. Liao Bing, Dr.-Ing. Dong, Dr. V.M. Korzhik (China, Ukraine).**
3. Joining of steel and dissimilar material joints with highest strength - there are other ways as welding. **Prof. U. Reisgen (Germany).**
4. The FSW technology of non-ferrous metals - process conditions and examples of application. **Dr. A. Pietras, Dr. A. We-glowska, Ing. B. Rams (Poland).**
5. Novel technologies for condition monitoring and non-destructive testing: present and future. **Prof. L. Gelman (Great Britain).**
6. Application of advanced forming and joining technologies in aeronautical structures. **Prof. Li Zhiqiang, Wei Chen, Ying Deng, Wei Xie (China).**
7. Technologies of flash-butt welding of rails, developed at PWI: 60 years of innovative solutions. **Prof. S.I.Kuchuk-Yatsenko (Ukraine).**
8. 2D and 3D modeling of the vacuum arc remelting process. **Prof. A. Jardy (France).**

Lunch break 2.00-3.00 pm

9. Thin-walled welded transformable-volume structures of space purpose. **Prof. L.M. Lobanov, V.S. Volkov (Ukraine).**
10. Low stress no-distortion welding based on thermal tensioning effects. **Prof. Guan Qiao (China).**

11. Advances in engineering methods for non-destructive measurement and beneficial distribution of residual stresses. **Prof. J. Kleiman, Dr. Yu. Kudryavtsev (Canada).**
12. Challenging trends of works in the field of welding and related technologies in SSPA «Powder metallurgy». **Prof. A.F. Ilyushchenko, E.D. Manojlo, S.I. Iovygin, A.I. Letsko, A.A. Radchenko (Belarus).**
13. Diffusion welding and brazing of dissimilar metals by using the controlled stress-strain state. **Dr. V.V. Kvasnytskyi, Prof. V.F. Kvasnytskyi, Chen Hexing, M.V. Matviienko, H.V. Yermolayev (Ukraine, China).**
14. Advanced characterization of friction welded molybdenum. **M. Stuetz, F. Pixner, D. Canelo Yubero, N. Enzinger, Prof. C. Sommitsch (Austria).**
15. Effect of plate thickness on rotation speed in FSW of aluminium alloy AA 6061-T6 sheets. **G. Ipekoglu, O. Aksam, G. Cam (Turkey).**
16. Modular design of productive electron beam welding machines. **F. Kolenic (Slovakia).**
17. Prospects of development of welded monocrystalline structures of heat-resistant nickel alloys. **Prof. K.A. Yushchenko, B.A. Zaderiy, I.S. Gakh, G.V. Zvyagintseva (Ukraine).**

Reception devoted to the Conference opening will be held at 6.30 pm in the Conference Center «DEPO»(Conference hall «Violet»), 52 Antonovich Str.

December 6, 2018

Conference Center «DEPO» (Conference hall «Violet»),
52 Antonovich Str.

Beginning of work at 9.00 am

18. Anode processes in welding arcs: theoretical studies, mathematical modeling, computer experiment. **Prof. I.V. Krivtsun (Ukraine).**
19. Magneto-acoustic diagnostics of water damaging of ferromagnetics. **Prof. Z.T. Nazarchuk, Prof. V.R. Skalsky (Ukraine).**
20. Robot welding on tube nodes. **Prof. S. Keitel, Ing. U. Muckenheim, Ing. U. Wolski, Dr.-Ing. J. Muglitz (Germany).**
21. Some technological peculiarities of site welding in construction of isothermal tanks. **Dr.-Ing. M. Beloev, Prof. N. Lolov (Bulgaria).**
22. Structure and properties of wear-resistant ion-beam vacuum coatings. **Dr. M.A. Andreev, L.V. Markova (Belarus).**
23. Electron beam technologies of welding, surfacing and prototyping:

- results and prospects. **Dr. V.M. Nesterenkov (Ukraine).**
24. Tends of development of special electrometallurgy of titanium in Ukraine. **Dr. S.V. Akhonin (Ukraine).**
25. Effect of multi-pass friction stir processing on the microstructure and mechanical properties of dual-phase steel. **Prof. T. Kucukomeroglu, S. M. Aktarer, G. Ipekoglu, G. Cam (Turkey).**

Lunch break at 2.00 - 3.00 pm

December 6, 2018

Poster session

Reading hall of the Paton Institute library,
building 4, 2nd floor

Beginning at 3.00 pm

1. Technologies, materials and equipment for welding and related technologies

- 1.1. **V.A. Anoshin, V.M. Ilyushenko.** Phenomenologic theory of crystalline cracks initiation (**Ukraine**).
- 1.2. **E.A. Asnis, Yu.V. Zubchenko, E.G. Ternovoy.** New generation of electron beam guns for welding and related technologies under open space conditions (**Ukraine**).
- 1.3. **M.G. Atroshenko, M.A. Poleshchuk, A.L. Puzrin, A.V. Shevtsov, I.P. Serebryanik.** Auto-vacuum brazing of large-sized products (**Ukraine**).
- 1.4. **S.V. Akhonin, V.A. Berezos, A.N. Pikulin, A.Yu. Severin.** Electron beam melting of nickel-based high-strength alloy ingots (**Ukraine**).
- 1.5. **S.V. Akhonin, V.Yu. Belous, R.V. Selin, E.L. Vrzhezhevsky, I.K. Petrichenko.** Welding and heat treatment of pseudo p-titanium alloys (**Ukraine**).
- 1.6. **A.G. Bogachenko, D.D. Mishchenko, I.A. Nejlo, V.I. Braginets.** Cored graphitized electrodes: effective improving of technical-economical characteristics of arc steel-making DC furnaces (**Ukraine**).
- 1.7. **Wen Juan Ci, Yu Shi, Chun Kai Li, Ming Zhu.** Mechanism of penetration increasing in Laser assisted Activating TIG Welding (**China**).

- 1.8. **N.A. Borobjev, M.M. Savitsky, A.S. Pismennyi, A.M. Savitsky, A.S. Prokofjev, R.S. Gubatyuk.** Technology of welding of alloyed steels for challenging models of heat engineering equipment (Ukraine).
- 1.9. **E.L. Vrzhezhevsky, N.V. Piskun, I.I. Statkevich, T.A. Likarenko, S.A. Glushak.** Electron beam welding of titanium aluminide - based intermetallic (Ukraine).
- 1.10. **E.L. Vrzhezhevsky, N.V. Piskun, T.G. Taranova, I.I. Statkevich, L.I. Bogajchuk.** Effect of thickness of intermetallic welded material of TiAl system on tendency to crack initiation in electron beam welding (Ukraine).
- 1.11. **V.V. Golovko, L.A. Taraborkin.** Fractional dimension and multi-fractional analysis of welded joint metal structure (Ukraine).
- 1.12. **A.A. Golyakevich.** Modern production of flux-cored wires «WELDTECH GROUP» in Ukraine (Ukraine).
- 1.13. **I.A. Goncharov, L.B. Medovar, A.P. Stovpchenko, L.A. Lisova, Ya.V. Gusev.** Control of physical-chemical properties of slag melts of fluxes for electroslag remelting (Ukraine).
- 1.14. **S.G. Grigorenko, S.V. Akhonin.** Structure and properties of welded joints of high-strength titanium alloys of new generation (Ukraine).
- 1.15. **G.M. Grigorenko, L.I. Markashova, E.N. Berdnikova, E.V. Polovetsky, V.A. Shapovalov, V.V. Yakusha, Yu.A. Nikitenko, A.N. Gnizdylo.** Formation of structure of profiled tungsten single crystal in the conditions of plasma-induction growing (Ukraine).
- 1.16. **A.G. Gryn, B.A. Trembach, S.V. Zharikov, I.A. Trembach.** Challenging trends of development of self-shielding flux-cored wires with exothermal admixtures (Ukraine).
- 1.17. **L.S. Denisov.** Development of systems of regulation and control of quality of welding works by applying low-cost methods of statistic control (Belarus).
- 1.18. **V.P. Elagin, A.P. Paltsevich.** Effect of shielding gas composition on resistance against cold crack formation in dissimilar steel welded joints during mechanized welding (Ukraine).
- 1.19. **I.V. Zyakhor, S.I. Kuchuk-Yatsenko, M.S. Zavertannyi, L.M. Karitanchuk.** Formation of nickel superalloy joints by friction welding (Ukraine).
- 1.20. **I.V. Zyakhor, S.I. Kuchuk-Yatsenko, M.S. Zavertannyi.** Bimetal transition pieces of alloy Cu-Cr-Zi/steel316L for project «ITER» (Ukraine).
- 1.21. **V.V. Kvasnytskyi, V.F. Kvasnytskyi.** Structure of joints made by

diffusion welding in vacuum with welded surface modifying (Ukraine).

- 1.22. **S.I. Kuchuk-Yatsenko, K.V. Gushchin.** Flash-butt welding of high-strength aluminium alloys (Ukraine).
- 1.23. **S.I. Kuchuk-Yatsenko, I.V. Zyakhov, A.A. Nakonechnyi, M.S. Zavertannyi, L.M. Kapitanchuk.** Pressure welding of titanium aluminide Y-TiAl with titanium alloys VT5, VT3-1 (Ukraine).
- 1.24. **V.A. Kostin, G.M. Grigorenko, V.D. Poznyakov, A.A. Gajvoronsky.** Peculiarities of structure formation of welded joints made of high-strength special steel QUARDIAN 500 (Ukraine).
- 1.25. **V.A. Lebedev, V.G. Efremenko, M. Kunert, O. Hesse, M.N. Brikov.** Trends in development of welding of high-carbon low-alloy steels at pulsed feeding of electrode wire (Ukraine, Germany).
- 1.26. **V.A. Lebedev, G.V. Zhuk, M.N. Brikov.** Some peculiarities of arc mechanized welding - surfacing at straight polarity with a pulsed feeding of electrode wire (Ukraine).
- 1.27. **V.A. Lebedev, G.V. Zhuk, S.V. Dragan.** New design of welding current supply unit (Ukraine).
- 1.28. **V.A. Lebedev, I.V. Simutenkov, S.V. Dragan.** Comparative power efficiency of pulsed methods at TUG welding of thin- sheet structures (Ukraine).
- 1.29. **L.M. Lobanov, P.V. Goncharov, A.N. Timoshenko.** Challenging directions of automation of welding processes in TIG welding of thin-sheet structures (Ukraine).
- 1.30. **S.V. Maksymova, I.V. Zvolinsky, I.V. Kobzar.** Specifics of structure formation in brazed joints at plasma-arc heating (Ukraine).
- 1.31. **S.Yu. Maksymov, V.A. Lebedev, D.N. Krazhanovsky, G.V. Zhuk.** Pulsed-arc underwater welding (Ukraine).
- 1.32. **S.Yu. Maksymov, V.A. Lebedev, D.N. Krazhanovsky, G.V. Zhuk.** Stabilization of underwater welding process by using flux-cored wire (Ukraine).
- 1.33. **T.A. Makrukha, A.N. Dubovoy .** Effect of combined deformation on thermal stability of polygonal substructure of cast iron and steel 20, 45 (Ukraine).
- 1.34. **L.I. Markashova, V.D. Poznyakov, E.N. Berdnikova, T.A. Alekseenko, S.L. Zhdanov, A.S. Kushnaryova.** Technology, structure and service properties of high-strength steel welded joints (Ukraine).

- 1.35. **V.A. Matvejchuk, V.M. Nesterenkov, M.O. Rusynik.** Technologies of electron beam additive production of industrial products (Ukraine).
- 1.36. **V.M. Nesterenkov, K.S. Khripko, Yu.V. Orsa, R.V. Strashko.** Application of electron beam technologies in nowadays industry (Ukraine).
- 1.37. **V.M. Nesterenkov, Yu.V. Orsa, K.S. Khripko, L.A. Kravchuk.** Technical and technological methods in manufacture and repair of critical products by electron beam welding method (Ukraine).
- 1.38. **S.A. Pantelejmonov, R.S. Gubatyuk, S.V. Rymar, A.S. Prokofjev.** Heat treatment of railway rail welded joints (Ukraine).
- 1.39. **V.D. Poznyakov, Yu.V. Demchenko, A.M. Denisenko, G.V. Zhuk, V.B. Kozyrev.** Peculiarities and application of welding in restoration of castings of architecture-decorative elements of Kotsebu bridge guard-rails in Odessa city (Ukraine).
- 1.40. **A.S. Pismennyi, A.S. Prokofjev, R.S. Gubatyuk.** Pressure welding-brazing of T-like structures of thin-walled tubes and tubes with flanges and tube sheets (Ukraine).
- 1.41. **A.S. Pismennyi, A.S. Prokofjev, S.V. Rymar, E.O. Pantelejmonov, R.S. Gubatyuk.** Pressure butt welding-brazing of tubes with glassy and enamel inner coating (Ukraine).
- 1.42. **A.G. Poklyatsky** Main advantages of welds produced by FSW (Ukraine).
- 1.43. **V.V. Polukhin, A.S. Prokofjev, D.V. Romashka.** Experimental technology and equipment for high-frequency welding of thin-walled spirally-welded pipes with controlled weld formation (Ukraine).
- 1.44. **A.D. Razmyshlyaev, M.V. Ageeva.** Modelling of induction of transverses magnetic field in the pool zone during arc welding and surfacing (Ukraine).
- 1.45. **M.M. Savitsky, V.V. Polukhin, A.M. Savitsky, A.A. Prokofjev, V.G. Udovenko, D.V. Romashka.** Development of experimental technology and equipment for manufacture of gas cylinders on the base of welded thin-walled spirally-welded pipes (Ukraine).
- 1.46. **V.Yu. Skulsky, M.A. Nimko, A.K. Tsaryuk, A.R. Gavrik, A.V. Vavilov, A.G. Kantor.** Welding and heat treatment of joints of 15 Kh1M1F + 15 Kh12VNMF steels (Ukraine).
- 1.47. **V.Yu. Skulsky, M.A. Nimko, A.K. Tsaryuk, A.R. Gavrik, A.V. Vavilov, A.G. Kantor.** Welding of combined joints of chromium steel X10CrMoVNb91 with low-alloy steel 15Kh2M2FBS (Ukraine).
- 1.48. **A.V. Stepakhno, M.M. Tokmakov.** Pilot plant of welding equip-

ment of the E.O. Paton Electric Welding Institute in Ukraine (Ukraine).

- 1.49. **E.G. Ternovoy, A.R. Bulatsev, V.F. Shulim, V.A. Kryukov, T.A. Likarenko.** Repair of pipelines of piloted space stations (Ukraine).
- 1.50. **A.V. Trofimov, I.A. Trembach, B.A. Trembach.** Welding of high-strength steels in manufacture of critical welded structures (Ukraine).
- 1.51. **E. Turyk, M. Lomozik.** Multi-use air-arc gouging and repair welding of high-strength steel WELDOX A 1100QL (Poland).
- 1.52. **Yu.V. Falchenko, L.V. Petrushinetz.** Peculiarities in manufacture of three-layer honeycomb panels of aluminium alloys (Ukraine).
- 1.53. **A.K. Tsaryuk, V.P. Elagin, L.S. Zakharov, E.A. Davydov.** Technology of manufacture of heat exchange modules of boiler-utilizer of steam-gas power plant (Ukraine).
- 1.54. **K.A. Yushchenko, V.E. Mazurak, T.N. Kushnaryova.** Welding of heat-resistant nickel alloys by reaction-diffusion method (Ukraine).

2. Strength, stress-strain state, NDT, technical diagnostics

- 2.1. **A.E. Andrejkiv, V.R. Skalsky, I.Ya. Dolinskaya.** Effect of hydrogen on residual life of steam pipeline pipe with a welded joint (Ukraine).
- 2.2. **E.A. Buturlyya, M.V. Matvienko, V.F. Kvasnytskyi.** Effect of stress-strain state on formation of joints in diffusion welding with stress raisers (Ukraine).
- 2.3. **A.P. Gopkalo, V.A. Nekhotyashchiy, G.Ya. Bezlyudko, A.E. Gopkalo.** On assessment of damageability of welded structure elements by coercive force measurements (Ukraine).
- 2.4. **E.A. Davydov, A.K. Tsaryuk, V.P. Elagin.** Technology of ultrasonic testing of butt and fillet welded joints of exchange surface pipes in manufacture of boiler-utilizer (Ukraine).
- 2.5. **V.V. Dmytryk, A.V. Glushko.** Creep features in welded joints of steam pipelines (Ukraine).
- 2.6. **M.N. Karmanov, V.A. Shalaev.** Microcontrollers for nondestructive testing (Ukraine).
- 2.7. **V.V. Kvasnytskyi, M.V. Matvienko, B.V. Bugaenko, E.A. Buturlyya.** Investigation of effect of geometry of cermet subassemblies on serviceability of joints at active brazing (Ukraine).
- 2.8. **V.V. Knysh, V.I. Kirjan, A.A. Grishanov, V.N. Bulash.** Effect of moderate-cold sea climate on effectiveness of strengthening the

butt welded joints of steel 15KhSND by high-frequency mechanical impact **(Ukraine)**.

- 2.9. **V.V. Knysh, B.M. Mordyuk, G.I. Prokopenko, S.A. Solovey.** Determination of efficiency, duration and quality of high-frequency mechanical peening of welded joints **(Ukraine)**.
- 2.10. **R.M. Kushnir, B.D. Drobenko.** On assessment of residual service life of operating power equipment elements **(Ukraine)**.
- 2.11. **L.M. Lobanov, N.A. Pashchin.** Electrodynamic treatment by electric current pulses is an effective method of stress-strain state control in welded structures of aircraft and ship building **(Ukraine)**.
- 2.12. **L.M. Lobanov, V.A. Pivtorak, I.V. Kiyanets.** Nondestructive testing of quality of aircraft structure elements by method of electron shearography **(Ukraine)**.
- 2.13. **L.M. Lobanov, V.A. Pivtorak, P.D. Krotenko, K.V. Shiyan.** Prediction of fracture pressure of pipe with corrosion defects by data of stress concentration **(Ukraine)**.
- 2.14. **L.M. Lobanov, V.V. Savitsky, K.V. Shiyan, I.L. Shkurat.** Automatic speckle-interferometry system for determination of residual stresses by the method of holes **(Ukraine)**.
- 2.15. **A.V. Moltasov, P.N. Tkach, S.I. Motrunich, S.M. Prokopchuk.** Stressed state in root part of butt welded joint with account for eccentricity of load applying **(Ukraine)**.
- 2.16. **V.V. Mutas, M.A. Hetrebsky, M.D. Rabkina.** On the strength of pressure vessels with non-reinforced holes **(Ukraine)**.
- 2.17. **I.I. Perepichaj, A.A. Perepichaj, V.V. Mutas, M.D. Rabkina.** Modeling of feasibility of crack-like defects developing in pressure vessels of two-layer steels **(Ukraine)**.
- 2.18. **Yu.M. Posypajko.** Technical diagnostics of tanks at the Arctic station «Academician Vernadsky» **(Ukraine)**.
- 2.19. **E.P. Pochapsky, N.P. Melnik, I.M. Koblan.** Application of magneto-elastic acoustic emission for examination of stressed state of nickel specimens **(Ukraine)**.
- 2.20. **J. Rosado-Carrasco, J. Gonzalez-Sanchez, A. Belyi, V. Lopez-Morelos.** Localized corrosion resistance in duplex stainless steel joints, gas metal arc welded under electromagnetic interaction of low intensity **(Mexico)**.
- 2.21. **D.V. Rudavsky, Yu.I. Kanyuk, M.S. Shefer.** Method of determination of residual life of round shaft with a surface crack **(Ukraine)**.
- 2.22. **M.O. Rudak.** Integrated investigation of longitudinal welded joint of

oil pipeline fragment by method of magneto-elastic acoustic emission **(Ukraine)**.

- 2.23. **M.M. Savitsky, A.S. Pismennyi, A.M. Savitsky, A.S. Prokofjev, E.O. Pantelejmonov, R.S. Gubatyuk.** Manufacture of multi-layer sheet structures with applying induction heating by high-frequency currents and method of press welding- brazing under pressure **(Ukraine)**.
- 2.24. **S.A. Solovey, V.N. Miryanin, V.V. Verushkin, V.G. Kot, A.A. Kadyshev.** Effect of atmosphere of moderate climate on efficiency of strengthening the butt welded joints of steel 15KhSND by high-frequency mechanical impact **(Ukraine)**.
- 2.25. **V.A. Troitsky.** Introduction of pipes numeration, which is read by inner-pipe flaw detectors, is the way of improving the safety of underground main gas pipelines **(Ukraine)**.
- 2.26. **V.A. Troitsky, S.R. Mikhailov, R.A. Pastovensky.** New technologies of radiographic control, based on solid-body flaw detectors **(Ukraine)**.
- 2.27. **A.A. Shtofel, M.D. Rabkina.** Fractural nature of cracks in welded joint fracture **(Ukraine)**.
- 2.28. **S.A. Shchupak.** Standardization and certification in the sphere of NDT in Ukraine **(Ukraine)**.
- 2.29. **H.S. Yildirim, A. Nussbaumer.** Fatigue life improvement of welded structures by high frequency mechanical impact (HMF) treatment **(Switzerland, Sweden)**.
- 2.30. **K.A. Yushchenko, G.V. Zvyagintseva.** Peculiarities of stress-strain state and fracture of welded joints with FCC-lattice **(Ukraine)**.

3. Surface engineering

- 3.1. **V.A. Anoshin, V.M. Ilyushenko, T.B. Majdanchuk.** Formation of intercrystalline inclusions in arc surfacing of copper alloys on steel and measures for their prevention **(Ukraine)**.
- 3.2. **I.L. Bogajchuk, Yu.M. Kuskov.** Transition zone of bimetal produced by edge electroslag surfacing of high-chromium cast iron on structural steel **(Ukraine)**.
- 3.3. **Yu.S. Borisov, A.L. Borisova, A.N. Burlachenko, N.V. Vigilyanskaya, T.V. Tsybalista, V.L. Rupchev.** Powders for thermal spraying of coatings, produced by method of treatment in high-power ball mills **(Ukraine)**.
- 3.4. **Yu.S. Borisov, I.A. Demjanov, N.V. Vigilyanskaya.** Electric arc spraying of wear-resistant pseudo-alloy «iron-copper» coatings **(Ukraine)**.

- 3.5. **Yu.S. Borisov, M.V. Kuznetsov, A.V. Volos, B.G. Zadoya, L.M. Kapitanchuk, V.V. Strelchuk, V.P. Kladko, V.F. Gorban.** Magnetron sputtering of nanocomposite coatings nc-TiC/a-C and CN_x (Ukraine).
- 3.6. **Yu.S. Borisov, A.L. Borisova, A.P. Murashov, A.N. Burlachenko, M.V. Kolomitsev, A.P. Grishchenko.** Thermal heat-protective coatings with quasi-crystalline and approximant structure (Ukraine).
- 3.7. **Yu.S. Borisov, I.V. Krivtsun, S.G. Vojnarovich, A.N. Kislitsa, E.K. Kuzmich-Yanchuk.** Hybrid laser-plasma spraying of coatings (Ukraine).
- 3.8. **G.M. Grigorenko, M.A. Poleshchuk, V.I. Zelenin, V.M. Teplyuk, E.V. Zelenin, I.V. Dotsenko.** Restoration of products by plasma-arc metallization method (Ukraine).
- 3.9. **G.M. Grigorenko, M.A. Poleshchuk, V.I. Zelenin, V.M. Teplyuk, E.V. Zelenin, I.V. Dotsenko, I.M. Popovich, Yu.N. Nikityuk.** New technology of restoration and strengthening of copper plates of MCCB moulds cooling by FSW method (Ukraine).
- 3.10. **A.N. Dubovoy, A.A. Karpechenko, M.N. Bobrov, Yu.E. Nedelko.** Effect of prior recrystallization heat treatment on working properties of coatings, produced by electric arc spraying (Ukraine).
- 3.11. **A.P. Zhudra, A.I. Belyi, A.P. Voronchuk.** Hard-facing materials for electric arc surfacing of composite alloys on tungsten carbide base (Ukraine).
- 3.12. **A.M. Kostin, V.A. Martinenko, A.B. Malyi.** Surfacing wear-resistant materials KMX and KMXC (Ukraine).
- 3.13. **L.A. Krishtein, V.P. Anisimov, A.Z. Popov.** Vacuum-arc evaporator with rotated cylindrical cathode for high-efficient controllable spraying of uniform coatings (Canada).
- 3.14. **Yu.M. Kuskov, V.V. Osin.** Experience in edge electroslag surfacing by filler flux-cored wire in current-supplying mould (Ukraine).
- 3.15. **B.A. Movchan, K.Yu. Yakovchuk.** Electron beam technology: present state and prospects (Ukraine).
- 3.16. **A.V. Paustovsky, V.G. Khristov, I.V. Dotsenko, V.I. Zelenin, M.A. Polishchuk, V.M. Teplyuk, E.V. Zelenin.** Feasibility of producing combined strengthening coatings of MCCB copper moulds by electric spark alloying and thermal spraying (Ukraine).
- 3.17. **V.V. Peremitno, A.I. Panfilov, I.A. Sidorenko.** Reserves for

control of properties and composition of metal, DEPOsited by arc surfacing (**Ukraine**).

- 3.18. **E.F. Pereplyotchikov**. State and prospects of plasma-powder surfacing application (**Ukraine**).
- 3.19. **Ch.V. Pulka, V.S. Senchishin, M.V. Sharik, V.Ya. Gavrilyuk**. Main trends in improving the technology of induction surfacing of thin elements of structures (**Ukraine**).
- 3.20. **I.A. Ryabtsev, A.A. Babinets, A.I. Panfilov**. Wear-resistant arc surfacing of 3-5 mm thick sheets (**Ukraine**).
- 3.21. **I.K. Senchenkov, A.P. Chervinko, I.A. Ryabtsev, A.A. Babinets, I.I. Ryabtsev**. Numerical modeling of processes of surfacing the thin-walled plane and cylindrical components (**Ukraine**).
- 3.22. **A.V. Sobol**. Application of integrated approach to directed nanostructured surface engineering (**Ukraine**).
- 3.23. **V.G. Solovjev, Yu.M. Kuskov, Yu.N. Lankin, I.A. Ryabtsev**. Automatic control of process of edge electroslag surfacing by large-section electrode in current-supplying mould (**Ukraine**).
- 3.24. **M.M. Student, A.A. Vojtovich, G.V. Pokhmurskaya**. Dispersion of structure of deposited layers of Fe-Cr-B-C system for improving their wear resistance (**Ukraine**).
- 3.25. **M.M. Student, Kh.R. Zadorozhnaya, G.V. Pokhmurskay**. Structure and wear resistance of VC-FeCr and VC-FeCrCo coatings, produced by HVOF method (**Ukraine**).
- 3.26. **Yu. Tyurin, L. Markashova, O. Kolesnichenko, E. Berdnikova, M. Polishchuk, Lu Lei, Lu Deping, Zou Jin, Zhan Linwei, Liao Xianjin, Yu Jiumin**. Pulse-plasma modifying of surface of tool alloy products (**Ukraine, China**).
- 3.27. **Yu. Tyurin, L. Markashova, O. Kolesnichenko, E. Berdnikova, M. Polishchuk, R. Tovbin, M. Shinlov**. Detonation device for formation of layer of nanocrystalline materials on surface of products (**Ukraine, Canada**).
- 3.28. **M. Shinlov**. Half-century experience in application of Ukrainian vacuum installations «Bulat» for spraying of functional coatings (**Canada**).

4. Ecology, welding in medicine, new materials, qualification, standardization of welding production

- 4.1. **E.A. Asnis, N.V. Piskun, I.I. Statkevich.** Improvement of mechanical properties of intermetallics Y-TiAl, alloyed with Nb, Zr, Cr, by formation of ordered microstructure **(Ukraine)**.
- 4.2. **Yu.K. Bondarenko, Yu.V. Loginova, K.O. Artyukh.** Development of procedure of identification of risks in welding production. Working out of register and ranking of risks in welded structures by means of NDT and TD **(Ukraine)**.
- 4.3. **O.G. Levchenko, A.Yu. Arlamov.** Protection from ultraviolet radiation at non-stationary working places of electric arc welding **(Ukraine)**.
- 4.4. **O.G. Levchenko, A.N. Bezushko.** Minimizing of evolutions of hazardous substances to working zone air in manual arc welding with alloyed electrodes **(Ukraine)**.
- 4.5. **O.G. Levchenko, A.O. Lukjanenko, O.V. Demetskaya.** Determination of cytotoxicity of welding aerosols **(Ukraine)**.
- 4.6. **V.N. Lipodaev, A.T. Zelnichenko.** «Avtomaticheskaya Svar-ka», leading edition in the field of welding, is 70 **(Ukraine)**.
- 4.7. **A.O. Lukjanenko, T.M. Labur, V.A. Kuleshov.** Levels of noise at working places of operators of non-consumable electrode argon-arc welding and friction stir welding of alloys 1460 and 1201 **(Ukraine)**.
- 4.8. **B.A. Movchan, Yu.A. Kurapov, L.A. Krushinskaya, G.G. Didikin, O.V. Gornostaj.** Electron beam technology of synthesis of nanostructured metals on the surface of medicinal substances **(Ukraine)**.
- 4.9. **B.A. Movchan, Yu.A. Kurapov, S.E. Litvin, Ya.A. Stelmakh.** Electron beam technology of synthesis of nanostructured materials **(Ukraine)**.
- 4.10. **P.D. Fomin, S.A. Oparin, Ya.P. Felishtinsky, B.V. Sorokin, A.A. Dyadik, D.B. Lutsenko.** Experimental-clinic grounding of treatment of stomach-intestinal extravasations by using endoscopic high-frequency welding bipolar electric coagulation **(Ukraine)**.
- 4.11. **E.A. Palievskaya, V.N. Lipodaev.** Association «Elektrod» at the present stage **(Ukraine)**.
- 4.12. **P.P. Protsenko.** Formation of national system of personnel qualification in the field of welding **(Ukraine)**.
- 4.13. **A.V. Sukhova, N.V. Karpenko.** Computer analysis of structure

and modeling of properties of composite materials (**Ukraine**).

- 4.14. **V.E. Fedorchuk, G.P. Kisla, Yu.V. Falchenko**. Advantages of aluminium alloys modifying with scandium (**Ukraine**).
- 4.15. **K.A. Yushchenko, A.V. Bulat, V.I. Samojlenko**. Improvement of hygienic characteristics of high-alloy Cr-Ni steels (**Ukraine**).

December 6, 2018

Meeting of youth section «Welding and Related Technologies»

Conference Center «DEPO»(Conference hall «Library»).

Beginning at 9.00 am

Working language - English

1. Experimental and Numerical Modeling of Delayed Fracture and Cold Cracks Formation due to Hydrogen Embrittlement, *V. Synyuk, V. Holovko, A. Paltsevich* (**Ukraine**).
2. Mathematical modelling of wire melting and droplet detachment during GMAW, *O. Semenov, I. Krivtsun, U. Reisgen, A. Schiebahn, O. Mokrov, R. Sharma, P Lozano* (**Ukraine, Germany**).
3. Gas nitriding of VT22 titanium alloy combined with heat treatment, *S.M. Lavrys* (**Ukraine**).
4. Residual life estimation of the rail with internal transverse cracks, *D. Rudavskyy, Yu. Kanyuk, M. Shefer* (**Ukraine**).
5. Acoustic wave scattering from a frustum, *V. Lysechko, D. Kuryliak* (**Ukraine**).
6. Physico-chemical modeling of ESR of the superalloys, *Ia. Gusiev, G. Stovpchenko*, (**Ukraine**).
7. ESR as additive technology for huge ingots, *G. Polishko, G. Stovpchenko, L. Medovar, A. Sybir* (**Ukraine**).
8. Innovative coatings for implants and parts for osteosynthesis, *O. Masiuchok, S. Voinarovych, O. Kyslytsia, Ie. Kuzmych-Ianchuk, S. Kaliuzhnyi, D. Teodossiev, V. Petkov, R. Valov, Al. Alexiev, V. Dyakova, B. Gligorijevic* (**Ukraine, Bulgaria, Serbia**).
9. Heating elements based on conductive and non conductive polymer composites, *R. Kolisnyk, M. Iurzhenko, M. Korab, Ye. Mamunya* (**Ukraine**).
10. Arc Characteristics and Metal Transfer Behavior in GMA-AM Process, *Gang Zhang, Yu Shi, Ming Zhu, Ding Fan* (**China**).
11. Analysis of droplet transfer and rebounded spatter mechanism based on self-shielded flux cored wire, *Heng Ming Zhang, Yu Shi, Jin Long Xie, Wen Juan Ci, Ming Zhu, Gang Zhang, Ding Fan*

(China).

12. Joining of polymers with tin *M. Kovalchuk, M. Iurzhenko, M. Korab, V. Demchenko* **(Ukraine)**.
13. Peculiarities of modification processes and Sulphur removal from cast iron when processing the melt with vaporous magnesium, *A. Narivskiy, V. Tunik, I. Rozdobarin, A. Perehoda, A. Klushyn* **(Ukraine)**.
14. Investigation of PLA products formation under 3D printing, and methods of their mechanical properties control, *O.P. Masiuchok, M.V. Iurzhenko, V.L. Demchenko* **(Ukraine)**.
15. Fatigue life improvement of welded structures by high frequency mechanical impact (HFMI) treatment, *Halid Yildirim* **(Sweden)**.
16. Flux-cored filler wire for TIG welding of high-strength titanium alloy VT22, *S. Schwab, S. Akhonin, V. Prilutsky* **(Ukraine)**.
17. Electroslag remelting in advanced high strength steel manufacturing, *L. Medovar, L. Lisova, G. Stovpchenko, G. Polishko* **(Ukraine)**.
18. Physical modelling of the drop metal transfer in ESR under effect of longitudinal magnetic field, *V. Porokhonko, I. Protokovilov* **(Ukraine)**.
19. Technological possibilities of repairing copper products of arc steel-smelting furnaces, *T Maidanchuk, V. Iliushenko, A. Bondarenko, E. Lukianchenko* **(Ukraine)**.
20. Examination of the impact of experimental factors on diagnostic parameters of the magnetoelastic acoustic emission, *N. Melnyk, M. Rudak, I. Koblan* **(Ukraine)**.
21. Diffusion welding as a method to obtain lightweight bimetallic constructions on the basis of porous aluminum and solid magnesium alloys, *M. Khokhlov, Iu. Falchenko, Ju. Khokhlova* **(Ukraine)**.
22. Research into defectiveness of welded joints of steam pipes operated for a long time under the conditions of creeping, *A. Glushko* **(Ukraine)**.
23. Using overcasting as a bonding process to join dissimilar materials, *Alireza Valizadeh* **(United Kingdom)**.



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