



V INTERNATIONAL CONFERENCE
ELECTRON BEAM WELDING
AND RELATED TECHNOLOGIES
Izhevsk, November 13-16 2023

Conference program



V INTERNATIONAL CONFERENCE
ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

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of structural materials Department, MADI

SECRETARIAT

General questions and work with Russian-speaking participants

Maksim Chepurin – Ph.D. of Engineering Sciences, Docent of Metal Technology
Department, NRU «MPEI»

FOR FOREIGN PARTICIPANTS

Regina Rodyakina – Ph.D. of Engineering Sciences, Docent of Metal Technology
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COORDINATION AND WORK WITH PARTICIPANTS IN IZHEVSK

Ekaterina Shaimova – documentologist OJBC «TRI «Progress»

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INTERNATIONAL CONFERENCE ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

PROGRAM OF THE CONFERENCE

november 13, monday

Arrival of the conference participants, hotel accommodation

november 14, tuesday

12:00 — 13:00 Registration of participants
13:00 — 15:00 Plenary session
15:00 — 15:20 Lunch break
15:20 — 17:10 Reports of the conference participants
17:10 — 17:30 Coffee-break
17:30 — 19:00 Reports of the conference participants
c 19:00 Excursions around OAO NITI Progress

november 15, wednesday

10:00 — 11:30 Reports of the conference participants
11:30 — 11:50 Coffee-break
11:50 — 13:20 Reports of the conference participants
13:20 — 14:20 Lunch break
14:20 — 15:50 Reports of the conference participants
15:50 — 16:10 Coffee-break
16:10 — 17:50 Reports of the conference participants
17:50 — 18:00 Summing up the results of the Conference
c 18:00 Final buffet and closing of the conference

november 16, thursday

Departure of Conference Participants

ADDRESS OF THE CONFERENCE:

DK "STROITEL", IZHEVSK, KOMMUNAROV STR., 351

THE VENUE OF THE BUFFET:

COSMOS IZHEVSK HOTEL, RUSSIA, UDMURT REPUBLIC, IZHEVSK, BORODINA STR., 25

*The duration of reports at the plenary session is 20 minutes, the remaining reports are 10 minutes.



INTERNATIONAL CONFERENCE ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

SCHEDULE OF REPORTS

November 14, 2023, Tuesday

Plenary panel

13:00 – 15:00

Begov N.A. (Ministry of Industry and Trade of Russia)

Government support measures of electron beam welding in processing industry

Dragunov V.K. (NRU MPEI)

Trends in the development of electron beam technologies at the present stage

Zilev A.Yu. (OJBC «TRI «Progress»)

From EBWM to AEBTC

Osipov I.V. (LLC "RPC TETA")

Back to the future, or the history of the company's evolution

Trushnikov D.N. (PNRPU)

Simulation of wire-feed deposition processes using meshless numerical methods in PNRPU

Kapustin E.N. (JSC "Vacuummash")

Proud of the past. Create the future. Celebrating the 80th anniversary of the "Vacuummash"

Lunch Break

15:00 – 15:20

Session 1

15:20 – 17:10

Seregin Yu.N. (Reshetnev SSUST)

Simulation of the mode EBW for predicting the parameters of a large-depth weld

Sherbakov A.V. (NRU MPEI)

Integration temperature stabilization system of deposited layer into control system of electron beam technological complex

Zenin A.A. (TUSUR)

Generation of a non-self-sustaining glowing discharge in a tube, initiated by a focused electron beam in the low-pressure forevacuum region

Zhgut D.A. (NRU MPEI)

Study of the mechanical properties of structures with a high degree of inhomogeneity

Melukov V.V. (LLC "Vyatka Certification Center")

Mathematical and numerical modeling of a thermal process in dissimilar welding by combined sources

Petruhin D.A. (NRU MPEI)

Electron beam relief modification of tungsten

17:10 – 17:30

Coffee/tea break



INTERNATIONAL CONFERENCE
ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

SCHEDULE OF REPORTS

November 14, 2023, Tuesday

Session 2

17:30 – 19:00

Potapov M.A. (NRU MPEI)

Study of the electron beam welding process of dissimilar welded joints of metal-glass components for aviation

Maheev R.C. (Bauman Moscow State Technical University)

Electron beam surface modification of aluminum matrix composite materials

Gudenko A.V. (NRU MPEI)

Influence of the beam oscillation on the titanium alloy VT6 structure during electron beam freeform fabrication

Oks E.M. (TUSUR)

Electron Beam Synthesis of Ceramic Coatings Using a Forevacuum Plasma Electron Source

Ushanov S.V. (NRU MPEI)

Application of acoustic emission method for diffusion interlayers detection in electron beam welded joints

Chudina O.V. (MADI)

Surface alloying impact on tribological steel properties using concentrated energy fluxes

Excursion to OJBC «TRI «Progress»

19:00 – 20:00



INTERNATIONAL CONFERENCE ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

SCHEDULE OF REPORTS

15 November 2023, Wednesday

Session 3

10:00 – 11:30

Fortuna S.V. (SB RAS)

On the problem of forming additive products from a heat-resistant alloy with a given structure

Fortuna S.V. (SB RAS)

Mechanical properties of the material of additive products from a heat-resistant alloy at room and elevated temperatures

Goncharov A.L. (NRU MPEI)

Investigation of electron beam parameters in technological complexes for EBW by light radiation from the drift space

Marchenkov A.Yu. (NRU MPEI)

Diagnostics of residual stresses in welded joints

Motorin M.P. (LLC "RPC TETA")

Electron-beam gun with a power of 150 kW for welding, melting and other technological operations in a vacuum

Coffee/tea break

11:30 – 11:50

Session 4

11:50 – 13:20

Stalkov P.M. (LLC "Smart Equipment Factory")

The electron beam soldering machine of heat exchangers"

Eliseeva E.P. (NRU MPEI)

Investigation of technological parameters impact on the formation and properties of the surface during the electron-beam modification of aluminum matrix composite material

Merkin S.A. (S7Technics)

Obtaining integral wing and fuselage structures from Al-Li alloys by vacuum electron beam welding

Terent'ev E.V. (NRU MPEI)

Obtaining integral wing and fuselage structures from Al-Li alloys by vacuum electron beam welding

Rozhkov K.A. (JSC "MIC "Mashinostroyenia")

Investigation of the possibility for increasing specific productivity of wire additive surfacing by two electron beams

Varushkin S.V. (PNRPU)

Electron-beam additive vertical wire surfacing with control of temperature distribution

Lunch Break

13:20 – 14:10



INTERNATIONAL CONFERENCE ELECTRON BEAM WELDING AND RELATED TECHNOLOGIES

SCHEDULE OF REPORTS

15 November 2023, Wednesday

Session 5

14:20 – 15:50

Semenov Yu.I. (BINP SB RAS)

Measurement of the electron beam profile size for electron beam welding

Semenov Yu.I. (BINP SB RAS)

Compact electron beam source for electron beam welding machines

Kozirev H.M. (NRU MPEI)

Dissimilar titanium-steel structures production using additive manufacturing of copper and niobium transition layers

Polyakov A.N. (PJSC "UEC-Saturn")

Import substitution in the area of electron beam welding

Durakov V.G. (LLC "RPC Kuban'neftemash")

Application of electron beam welding in the production of vacuum insulated tubing

Parshukov L.I. (JSC "Lavochkin Association")

Method of increasing emission properties of lanthanum hexaboride cathode for electron-beam welding

Coffee/tea break

15:50 – 16:10

Session 6

16:10 – 17:50

Lastovirya V.N. (Moscow Polytechnic University)

Simulation of the electron beam weld shape parameters in an almost stationary region

Kozhechenko A.S. (NRU MPEI)

Determination of the current density distribution distortions due to electron reflectance during measuring high-power technological electron beams

Nehoroshev A.V. (NRU MPEI)

Study of the technological parameters influence on the stability of product formation during two-wire electron beam deposition

Chulkov I.S. (НИУ «МЭИ»)

Experimental determination of the thermal electromotive force absolute coefficient of structural alloys and pure metals

Closing remarks

17:50 – 18:00

Buffet

18:00 – 20:00



INTERNATIONAL CONFERENCE
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FOR NOTES

