National Academy of Sciences of Belarus

A.V. Luikov Heat and Mass Transfer Institute of the
National Academy of Sciences of Belarus

State Committee on Science and Technologies of the Republic of Belarus

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Belarusian Republic Foundation for Basic Research

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Institute of Engineering Thermophysics of the
National Academy of Sciences of Ukraine

International Center for Heat and Mass Transfer

PROGRAM

XIV MINSK INTERNATIONAL HEAT AND MASS TRANSFER FORUM

September 10–13, 2012

Minsk 2012

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GENERAL INFORMATION

SEATS OF THE FORUM

PLENARY SESSIONS
Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.

SECTION MEETINGS:

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Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.

Section 2 Heat and Mass Transfer in Phase Transformations
Small Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 1 Akademicheskaya Str.

Section 3 Heat and Mass Transfer in Technological Processes and Equipment
Hall of Meetings of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.

Section 4 Heat and Mass Transfer in Power Engineering Facilities
Conference Hall of the Institute of History of the National Academy of Sciences of Belarus, 1 Akademicheskaya Str.

Section 5 Heat and Mass Transfer in Reacting Systems
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Section 6 Heat Transfer in Micro-, Nanosized, and Biological Systems
Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezavisimost Ave.

Section 7 General Problems of Heat and Mass Transfer
Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezavisimost Ave.

ROUND-TABLE DISCUSSION Ways of Modernization of Industrial Thermal Power Engineering
Conference Hall of the A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus, 15 P. Brovka Str.

REGISTRATION

Registration of the Forum participants, issue of the Forum Proceedings will take place in:

A.V. Luikov Heat and Mass Transfer Institute
15 P. Brovka Str.

September 9:	**7.30 a.m. – 10.00 p.m.**
September 10:	**7.30 a.m. – 9.30 a.m.**

TRANSPORT

From Railway Station to A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus

by Metro to the station "Akademiya Nauk", then by trolley-buses Nos. 33, 34, 35 or buses Nos. 20, 37, 59, 92 to the next stop

From Airport Minsk-2 to A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus

by airport bus to the stop "Dom Pechati", then by trolley-buses Nos. 33, 34, 35 or buses Nos. 20, 37, 59, 92 to the next stop

From "Belarus" Hotel to Presidium of the National Academy of Sciences of Belarus

by trolley-buses Nos. 21, 39, 56 from the stop "Gostinitsa Yubileinaya" to the stop "Ulitsa Lenina", then by Metro to the station "Akademiya Nauk"

From "Sputnik" Hotel to Presidium of the National Academy of Sciences of Belarus

by bus No. 100 to the stop "Dom Pechati"

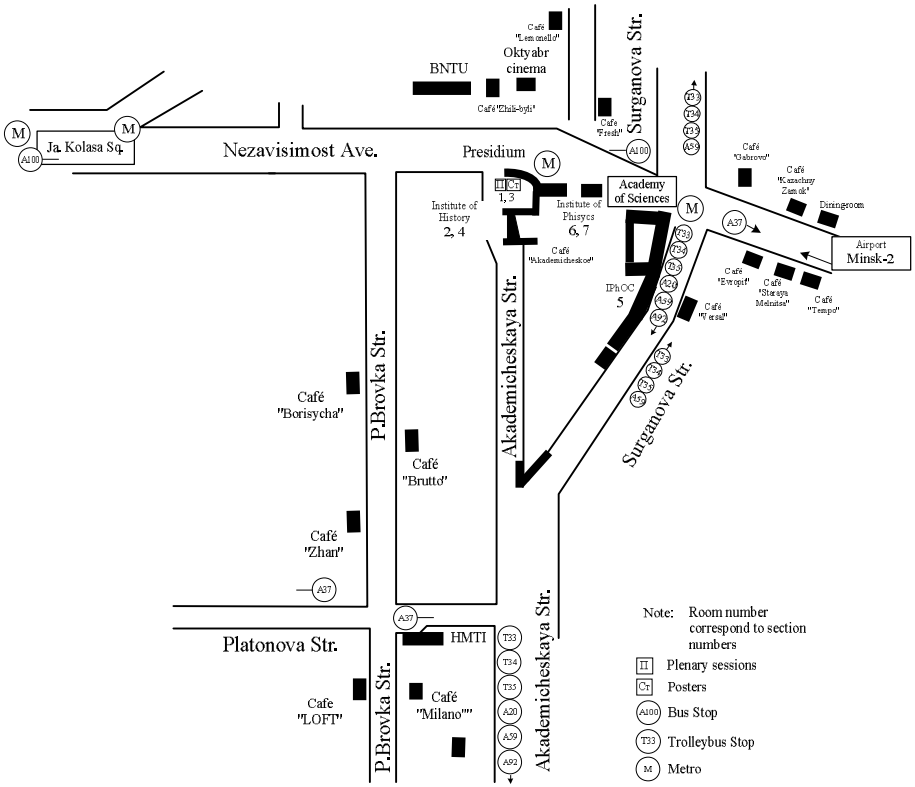
From Railway Station to"Belarus" Hotel

by Metro to the stop "Nemiga", then by trolley-buses Nos. 21, 39, 56 to the stop "Gostinitsa Yubileinaya"

DEPARTURE

It is recommended to purchase return tickets on one's own when buying tickets to Minsk.

LAYOUT OF THE FORUM ROOMS



SOCIAL EVENTS AND EXCURSIONS

The participants can reserve tickets during registration and in the course of the Forum.

VISUAL AIDS

Oral Reports can be aided by multimedia presentation in MS Power Point.

Posters should have the title of the paper (communication), author's name, first and patronymic, lettered 30 mm high (obligatory). Diagrams, tables, photographs, and text of the paper (communication) should be arranged to fill up an area of 1 poster board (1200×800 mm).

PRESENTATION TIME

Plenary report……....……30–40 min
Report……....……15–20 min
Communication……....……5–10 min
Poster…….……....……1 h

ADDRESS AND TELEPHONES OF THE ORGANIZING COMMITTEE

A.V. Luikov Heat and Mass Transfer Institute
National Academy of Sciences of Belarus
15 P. Brovka Str., Minsk 220072 Belarus
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Publishing Department: (375 017)284-10-52

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Chorny, A.D.	Koznacheev, I.A.	Stepanov, K.L.
Dobrego, K.V.	Matveichuk, A.S.	Vasiliev, L.L.
Drozd, E.S.	Rabinovich, O.S.	Zhuravskii, G.I.

PLENARY SESSIONS

(Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.)

Monday, September 10
10.00 a.m. – 1.00 p.m.

Opening Ceremony. ***A. Rusetskii***, Chairman of the Presidium of the National Academy of Sciences of Belarus

Opening Address. ***O. Penyazkov***, Chairman of the Organizing Committee, Director of the A.V. Luikov Heat and Mass Transfer Institute

O. Penyazkov *(Minsk)*. A.V. LUIKOV HEAT AND MASS TRANSFER INSTITUTE, NATIONAL ACADEMY OF SCIENCES OF BELARUS. 60 YEARS: RESULTS AND PROSPECTS

O. Alifanov *(Moscow)*. IDENTIFICATION AND PREDICTION OF THE PROPERTIES OF HEATPROOF MATERIALS

Greetings and Congratulations on the Occasion of the 60th Anniversary of the A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus

Tuesday, September 11
9.00 a.m. – 1.00 p.m.

V.V. Kuznetsov *(Novosibirsk)*. HEAT AND MASS TRANSFER IN MICROSYSTEMS WITH PHASE TRANSFORMATIONS AND CHEMICAL REACTIONS

S. Kakaç, S. Özerinç, A. G. Yazıcıoğlu *(Turkey)*. HEAT TRANSFER ENHANCEMENT IN LAMINAR CONVECTIVE HEAT TRANSFER WITH NANOFLUID FLOW IN CIRCULAR CHANNELS

S.A. Zhdanok *(Minsk)*. SYNTHESIS AND APPLICATION OF CARBON NANOSTRUCTURED MATERIALS

Yu.M. Anokhin, S.K. Bikezin, V.V. Bolshakov, V.P. Zavalskii, V.A. Kapustin, L.L. Kobzar, D.A. Oleksyuk, Yu.M. Semchenkov *(Moscow).* EXPERIMENTAL AND COMPUTATIONAL INVESTIGATIONS OF THE THERMAL HYDRAULICS OF THE ACTIVE ZONES OF WATER-MODERATED WATER-COOLED NUCLEAR REACTORS AT THE "KURCHATOV INSTITUTE" SCIENTIFIC RESEARCH CENTER

A.O. Kuzmin, M.Kh. Pravdina, V.N. Parmon *(Novosibirsk).* USE OF TWISTED FLOWS FOR ENHANCEMENT OF MASS TRANSFER PROCESSES IN CHEMICAL TECHNOLOGY

S.M. Frolov *(Moscow).* DETONATION BURNERS: PHYSICAL PRINCIPLES AND PERSPECTIVES OF APPLICATION IN POWER ENGINEERING

Thursday, September 13
9.00 a.m. – 1.00 p.m.

V. Fortov, V. Efremov, E. Dianov, I. Bufetov, A. Frolov, E. Krasnoperov, G. Dorofeev, Yu. Kuroedov, A. Eremin, A. Emelianov *(Moscow),* ***H. Jander, H.G. Wagner*** *(Germany).* ANALOGS OF DETONATION PROCESSES AT HIGH ENERGY DENSITIES

O. Martynenko *(Minsk).* SCIENTIFIC HERITAGE OF A.V. LUIKOV

Presentation of the A.V. Luikov Prize of the National Academy of Sciences of Belarus

Addresses of the Prize-Winners

Summing up the Results of the Forum Work

SECTION MEETINGS

Section 1 CONVECTIVE AND RADIATIVE HEAT TRANSFER

(Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.)

Section Bureau:
S.A. Isaev (*St.Petersburg*) – Co-Chairman
K.L. Stepanov (*Minsk*) – Co-Chairman
A.S. Smetannikov (*Minsk*)
Yu.A. Stankevich (*Minsk*)
A.D. Chorny (*Minsk*) – Scientific Secretary

Monday, September 10
2.30 p.m. – 5.30 p.m.

V.A. Arkhipov, I.K. Zharova, V.D. Goldin, V.T. Kuznetsov *(Tomsk),* ***N.I. Kurilenko*** *(Tyumen),* ***G.Ya. Mamontov*** *(Tomsk).* INVESTIGATION OF THE RADIATION COEFFICIENTS OF HEAT-SHIELDING MATERIALS (communication)

A.M. Grishin, A.N. Golovanov, V.I. Zinchenko, K.N. Efimov, A.S. Yakimov *(Tomsk).* ON HEAT SHIELDING OF HYPERSONIC VEHICLES (report)

M.S. Tret'yak *(Minsk),* ***V.V. Chuprasov, A.F. Klishin*** *(Moscow).* INFLUENCE OF THE NOZZLE PROFILE ON THE CHARACTERISTICS OF A SUPERSONIC FLOW AND ITS EFFECTS ON A BARRIER (communication)

Yu.A. Vinogradov, K.S. Egorov, S.S. Popovich, M.M. Strongin *(Moscow).* EXPERIMENTAL INVESTIGATION OF HEAT AND MASS TRANSFER ON PERMEABLE SURFACE IN A SUPERSONIC BOUNDARY LAYER (communication)

Yu.F. Gortyshov, I.A. Popov, D.V. Ryzhkov, A.V. Shchelchkov *(Kazan).* HYDRODYNAMICS AND HEAT TRANSFER ON HEAT TRANSFER SURFACES WITH DIMPLES OF VARIOUS SHAPES (communication)

O.N. Kashinskii, V.V. Randin, A.V. Chinak *(Novosibirsk).* HEAT TRANSFER AND WALL SHEAR STRESS IN A GAS-LIQUID FLOW IN AN INCLINED FLAT CHANNEL (communication)

V.G. Lushchik, M.S. Makarova, A.E. Yakubenko *(Moscow).* TEMPERATURE STRATIFICATION IN A TURBULENT BOUNDARY LAYER ON A PERMEABLE SURFACE (report)

I.A. Popov, A.V. Shchelchkov, M.Z. Yarkaev, D.V. Ryzhkov *(Kazan).* THERMAL AND HYDRAULIC EFFICIENCY OF THE CHANNELS OF HEAT EXCHANGERS IN TRANSIENT FLOW REGIMES (communication)

V.I. Terekhov, V.V. Terekhov *(Novosibirsk)*. NUMERICAL SIMULATION OF MIXED-CONVECTIVE HEAT TRANSFER IN A VERTICAL CHANNEL WITH A SYSTEM OF DISCRETE HEAT-RELEASING ELEMENTS (communication)

V.I. Terekhov, N.I. Yarygina *(Novosibirsk)*. CURRENT STATE OF EXPERIMENTAL STUDIES OF HEAT TRANSFER IN TURBULENT SEPARATED FLOWS (report)

A. I. Filippov, O. V. Akhmetova, A. S. Rodionov *(Sterlitamak)*. HEAT TRANSFER OF A TURBULENT FLOW IN A WELL (communication)

A.A. Khalatov, I.I. Borisov, A.S. Kovalenko *(Kiev),* ***Yu.Ya. Dashevskii*** *(Nikolaev),* ***S.V. Shevtsov*** *(Kiev)*. FILM COOLING OF A FLAT SURFACE PLATE BY MEANS OF ONE AND TWO ARRAYS OF HOLES LOCATED IN SPHERICAL DIMPLES (communication)

O.Yu. Kuleshov, V.M. Sedelkin *(Engels)*. CORRECTION ZONING METHOD FOR CALCULATING RADIATIVE AND COMBINED HEAT TRANSFER IN POWER EQUIPMENT (communication)

K.Yu. Litvintsev *(Krasnoyarsk),* ***A.A. Dekterev*** *(Novosibirsk),* ***P.A. Neobyavlyayushchii*** *(Krasnoyarsk)*. INFLUENCE OF THE METHODS OF CALCULATION OF RADIATION HEAT TRANSFER ON THE RESULTS OF SIMULATION OF A BURNER FOR AFTER BURNING OF ANODE GASES OF ELECTROLYSIS PRODUCTION (communication)

M.S. Makarov *(Novosibirsk)*. NUMERICAL INVESTIGATION OF ENERGY SEPARATION FOR A COMPRESSIBLE GAS FLOW IN A FLAT CHANNEL (communication)

*T.****Sh. Magrakvelidze*** *(Tbilisi)*. ON DETERMINING VALUES OF SIMILARITY NUMBERS FOR THE CASE OF LIQUID MIXING IN A POOL

T.Sh. Magrakvelidze, N.N. Lekveishvili, N.O. Bantsadze, A.N. Mikashavidze, Kh.N. Lomidze *(Tbilisi)*. LOCAL CHARACTERISTICS OF THE FORMATION OF DEPOSITS ON SMOOTH AND ROUGH SURFACES (communication)

É.V. Vasilevskii, I.V. Egorov *(Moscow)*. INVESTIGATION OF HEAT TRANSFER AND OF HEAT SHIELDING AT THE CENTRAL AERO-HYDRODYNAMICS INSTITUTE (communication)

5.30 p.m. – 6.30 p.m.

Posters[1]

1. ***I.V. Voshchula, V.A. Dlugunovich, A.Yu. Zhumar*** *(Minsk)*. BIDIRECTIONAL REFLECTION OF POLARIZED RADIATION BY THERMOCONTROLLING COATINGS AND HEAT SHIELDING MATERIALS

2. ***V.A. Nemtsev, G.F. Betenya, V.V. Vorob'ev, A.G. Lukashevich*** *(Minsk)*. HEAT TRANSFER UNDER CONDITIONS OF COOLING HIGH-TEMPERATURE PLANE SPECIMENS IN A POOL OF SUBCOOLED WATER

3. ***L.N. Panasenko, E.M. Ermolaeva, Yu.A. Kharevich*** *(Minsk)*. MODELING OF RADIATION PROCESSES OCCURING DURING DISPOSAL OF HAZARDOUS WASTES

4. ***Yu.I. Shanin, O.I. Shanin*** *(Podolsk).* HEAT TRANSFER AND HYDRAULIC RESISTANCE OF COMPACT SYSTEMS OF COOLING LASER MIRRORS

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[1]**Number of the paper corresponds to the number of the poster board.**

5. ***Yu.I. Shanin, O.I. Shanin*** *(Podolsk)*. HEAT TRANSFER AND HYDRAULIC RESISTANCE OF SYSTEMS OF COOLING LASER MIRRORS AND BUMPS

6. ***A.A. Shakhnovskaya, A.D. Chornyi*** *(Minsk)*. CALCULATION OF HEAT TRANSFER IN VITRIFICATION SYSTEMS WITH INTEGRATED HEATERS

7. ***N.I. Stetyukevich, V.F. Shevtsov, V.A. Firago, M.V. Khilko*** *(Minsk)*. INFLUENCE OF THE EMISSIVITY UNCERTAINTY ON THE RESULTS OF THERMOGRAPHIC CONTROL

8. ***S.E. Tarasevich, A.B. Yakovlev, A.V. Shishkin, A.A. Giniyatullin*** *(Kazan)*. CHARACTERISTIC FEATURES OF HEAT AND MASS TRANSFER IN CHANNELS WITH RIBBED TWISTED TAPE INSERTS

9. ***K.Yu. Katsalap, E.A. Ershov-Pavlov, L.K. Stanchits, K.L. Stepanov*** *(Minsk)*. EROSION PLASMA EXCITATION IN ANALYSIS OF THE COMPOSITION OF METAL ALLOYS BY LASER-INDUCED BREAKDOWN SPECTROSCOPY METHODS

10. ***D.V. Kosenkov*** *(Kazan),* ***A.V. Paltsev*** *(Novocheboksarsk),* ***P.I. Budarin, K.B. Panfilovich*** *(Kazan)*. SPECTRAL CHARACTERISTICS OF COMPRESSED PROPYLENE

11. ***I.G. Kukharchuk, A.D. Chornyi*** *(Minsk)*. EXPERIMENTAL INVESTIGATION OF HYDRODYNAMIC CAVITATION IN THE CONTINUOUS-FLOW CHANNELS OF MIXERS

12. ***É.V. Vasilevskii, L.V. Yakovleva*** *(Moscow).* INVESTIGATION OF HEAT TRANSFER IN DUST-LADEN HIGH-VELOCITY GAS FLOW AROUND BLUNT BODIES

13. ***É.V. Vasilevskii, B.E. Zhestkov, V.I. Sakharov, A.A. Trofimov, V.V. Shtapov*** *(Moscow).* INVESTIGATION OF HEAT TRANSFER ON A BLUNT CONE IN A SUPERSONIC NONEQUILIBRIUM FLOW

14. ***V.Ya. Borovoi, É.V. Vasilevskii, I.V. Egorov, V.E. Mosharov, V.N. Radchenko, P.V. Chuvakov, V.V. Shtapov, L.V. Yakovleva*** *(Moscow).* INVESTIGATION OF HEAT TRANSFER ON THE SURFACE OF A SHARP CONE UNDER CONDITIONS OF TANGENTIAL BLOWING OF GAS INTO A SUPERSONIC FLOW

Tuesday, September 11
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É.Ya. Épik, T.T. Suprun *(Kiev)*. HEAT TRANSFER AFTER LOCAL CLOSED SEPARATION ON THE INLET EDGE OF A STREAMLINED SURFACE (report)

V.I. Terekhov, A.V. Chichindaev, A.L. Ekaid *(Novosibirsk).* TURBULENT FREE CONVECTION BETWEEN VERTICAL PARALLEL PLATES WITH ASYMMETRYCAL HEATING (communication)

A.Yu. D'yachenko, Ya.I. Smulskii, V.I. Terekhov, N.I. Yarygina *(Novosibirsk)*. INTERACTION OF DIFFERENT-SCALE TURBULENT SEPARATED FLOWS (communication)

R. Zujus, R. Poškas, A. Gediminskas *(Kaunas, Lithuania)*. NUMERICAL SIMULATION OF AIDING MIXED CONVECTION IN A VERTICAL FLAT CHANNEL (communication)

M. Milieška, V. Valinčius, V. Grigaitienė, R. Kėželis *(Kaunas, Lithuania).* EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER DURING TURBULENT MULTIPHASE PLASMA FLOW IN A CIRCULAR TUBE (communication)

A.A. Anisin *(Bryansk)*. IMPROVEMENT OF HEAT-AND-POWER EFFICIENCY OF BANKS OF SMOOTH TUBES WITH THE SURFACE OF COMPLEX GEOMETRY IMMERSED IN A CROSS FLOW (communication)

V.A. Kondratyuk, A.M. Terekh, A.I. Rudenko *(Kiev).* HEAT TRANSFER AND AERODYNAMICS OF FLAT-OVAL BUNDLES OF TUBES IN A CROSS FLOW (communication)

O.N. Kashinskii, P.D. Lobanov, A.S. Kurdyumov, N.A. Pribaturin *(Novosibirsk)*. STUDY OF FLOW HYDRODYNAMIC STRUCTURE IN AN ANNULAR CHANNEL WITH A PARTIALLY BLOCKED SECTION (communication)

I.A. Melnikov, Yu.P. Ivochkin, N.G. Razuvanov, V.G. Sviridov, E.V. Chekmeneva, A.V. Shashurin *(Moscow)*. INVESTIGATION OF THE MHD OF LIQUID METAL HEAT TRANSFER DURING FLOW IN A VERTICAL TUBE (communication)

S.A. Isaev *(St. Petersburg),* ***A.I. Leontiev*** *(Moscow).* VORTICAL HEAT TRANSFER ENHANCEMENT BY DIMPLES IN CHANNELS AND TUBES. THE PROBLEM STATE-OF-THE ART AND PROSPECTS (report)

V.M. Molochnikov, N.I. Mikheev, O.A. Dushina, A.A. Paereliy *(Kazan).* DEPENDENCE OF THE STRUCTURE OF TRANSITIONAL CHANNEL FLOW BEHIND A SPANWISE RIB ON THE RIB SHAPE (communication)

I.A. Davletshin, N.I. Mikheev, A.K. Kirilin *(Kazan).* HEAT TRANSFER ENHANCEMENT IN A CHANNEL WITH DISCRETE ROUGHNESS UNDER SUPERIMPOSED PULSATIONS OF FLOW VELOCITY (communication)

B.V. Perepelitsa *(Novosibirsk).* EXPERIMENTAL INVESTIGATION OF A TEMPERATURE FIELD ON STEPWISE CHANGE IN A HEAT FLUX IN A CHANNEL WITH CORRUGATED WALLS (communication)

O.N. Kashinskii, P.D. Lobanov, A.S. Kurdyumov, V.V. Randin *(Novosibirsk)*. HEAT TRANSFER AND HYDRODYNAMICS OF AN UPWARD TWO-PHASE FLOW IN AN AXISYMMETRIC ANNULAR CHANNEL (communication)

A.V. Novozhilova, Z.G. Maryina, A.Yu. Vereshchagin *(Arkhangelsk),* ***V.B. Kuntysh*** *(Minsk)*. INVESTIGATION OF FREE-CONVECTIVE HEAT TRANSFER OF IN-LINE FINNED-TUBE BUNDLES WITH DIFFERENT ANGLES OF INCLINATION OF TUBES (communication)

P.V. Prosuntsov, S.V. Reznik *(Moscow)*. PLANNING OF TEMPERATURE MEASUREMENTS IN INVESTIGATIONS OF HEAT TRANSFER IN HIGHLY POROUS THERMAL INSULATION MATERIALS (report)

5.30 p.m. – 6.30 p.m.

Posters[2]

1. ***Yu.V. Vidin, D.I. Ivanov, R.V. Kazakov*** *(Krasnoyarsk)*. APPROXIMATE METHOD FOR CALCULATING THE TEMPERATURE DISTRIBUTION IN A RECTANGULAR FIN ON HEAT REMOVAL BY RADIATION FROM ITS SURFACE

2. ***O.G. Klyueva*** *(Khimki)*. CREATION OF UNIFIED HEAT EXCHANGER FOR A SINGLE-CHAMBER LIQUID-PROPELLANT ROCKET ENGINE

3. ***V.D. Tyutyuma*** *(Minsk)*. AN URGENT PROBLEM OF HEAT TRANSFER IN A FLOW OF A VISCOUS COMPRESSIBLE MEDIUM

4. ***A.N. Golovanov, A.S. Okolelov, E.V. Stepanova*** *(Tomsk)*. HEAT AND MASS EXCHANGE BETWEEN A WALL AND A PLASMA JET IN THE PRESENCE OF LIQUID INJECTION THROUGH A POROUS MATERIAL

5. ***D.G. Grigoruk, P.S. Kondratenko, M.E. Chizhov*** *(Moscow)*. THREE-DIMENSIONAL MODELING OF CONVECTIVE HEAT TRANSFER PROCESSES UNDER CONDITIONS OF EXOTHERMIC REACTION ON SOLID SURFACES

6. ***A.R. Lepeshkin*** *(Moscow)*. THREE-DIMENSIONAL MODELING OF THE THERMAL STATE OF DISKS ROTATING IN AN ELECTROMAGNETIC FIELD

7. ***P.A. Neobyavlyayushchii*** *(Krasnoyarsk),* ***A.A. Dekterev*** *(Novosibirsk),* ***K.Yu. Litvintsev*** *(Krasnoyarsk)*. INVESTIGATION OF COMBINED HEAT TRANSFER IN MULTICOMPONENT GAS MIXTURES IN APPLICATION TO DEVICES OF BURNING AND TRANSPORTATION OF ANODE GASES OF ELECTROLYSIS ALUMINUM PRODUCTION

8. ***V.G. Gorobets*** *(Kiev)*. INFLUENCE OF HIGH-EMISSIVITY COATINGS ON THE CHOICE OF OPTIMAL DIMENSIONS OF FINNING

9. ***S.V. Reznik, T.G. Ageeva*** *(Moscow)*. DETERMINATION OF MODEL PARAMETERS FOR THERMAL TESTING OF COMPOSITE WING PANEL

10. ***A.D. Chornyi, E.M. Zayats, D. I. Krivovyazenko*** *(Minsk*). CALCULATION OF THE PARAMETERS OF HEAT TRANSFER UNDER CONDITIONS OF ELECTROCOAGULATION OF WHEY PROTEINS

Wednesday, September 12
9.00 a.m. – 12.00 a.m.

V.A. Rogachev, A.V. Baranyuk, A.A. Kirichenko *(Kiev)*. CFD MODELING OF HEAT TRANSFER AND FLOW IN CIRCULAR TUBES WITH TURBULATORS (communication)

A.M. Molchanov, P.V. Nikitin, L.V. Bykov *(Moscow)*. CALCULATION OF HIGH SPEED REACTING FLOWS BASED ON THE MODELING OF TURBULENT PRANDTL AND SCHMIDT NUMBERS (report)

M.A. Pakhomov, V.I. Terekhov *(Novosibirsk)*. MODELING OF FLOW AND HEAT/MASS TRANSFER IN A TURBULENT GAS—DROPLET BOUNDARY LAYER (report)

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[2]Number of the paper corresponds to the number of the poster board.

V.A. Petrov *(Moscow)*. NONSTATIONARY RADIATIVE—CONDUCTIVE HEAT TRANSFER IN HIGH-TEMPERATURE FIBROUS INSULATION AND THE MODEL OF RADIATION DIFFUSION (communication)

E.N. Pis'mennyi, A.V. Baranyuk, L.V. Pashinskaya *(Kiev)*. CFD MODELING OF THERMOHYDRAULIC CHARACTERISTICS OF EQUALLY DEVELOPED HEAT TRANSFER SURFACES (communication)

A.P. Skuratov *(Krasnoyarsk)*. PROBLEMS OF MATHEMATICAL MODELING COMBINED HEAT TRANSFER IN HIGH-TEMPERATURE TECHNOLOGICAL PLANTS OF NONFERROUS METALLURGY (report)

A.A. Tsynaeva, E.A. Tsynaeva *(Ulyanovsk)*. SIMULATION OF HEAT TRANSFER ENHANCEMENT IN A SUPERSONIC PIPE BY TEMPERATURE STRATIFICATION WITH THE USE OF HEAT PIPES (communication)

I. V. Chermyaninov, V. G. Chernyak *(Ekaterinburg)*. ONSAGER'S THEORY FOR A ONE-COMPONENT GAS IN THE FIELD OF LASER RADIATION IN THE PRESENCE OF PRESSURE AND TEMPERATURE GRADIENTS (communication)

S.G. Orlovskaya, M.S. Shkoropado, F.F. Karimova *(Odessa)*. PHYSICOMATHEMATICAL MODELING OF STATIONARY HIGH-TEMPERATURE HEAT AND MASS TRANSFER OF TUNGSTEN FILAMENTS HEATED ELECTRICALLY IN AIR (communication)

Y.L. He, W.Q. Tao *(China)*. NUMERICAL STUDIES OF THE INHERENT INTERRELATIONSHIP BETWEEN FIELD SYNERGY PRINCIPLE AND ENTRANSY EXTREME PRINCIPLE FOR ENHANCING CONVECTIVE HEAT TRANSFER (communication)

O. Zikanov *(USA),* ***Ya. Listratov, E. Sviridov, V. Sviridov, D. Ognerubov*** *(Moscow),* ***D.Krasnov*** *(Germany).* DIRECT NUMERICAL SIMULATION OF MIXED CONVECTION IN A HORIZONTAL PIPE WITH A STRONG TRANSVERSE MAGNETIC FIELD (communication)

V.A. Aleksin *(Moscow)*. MODELING OF TURBULENT HEAT TRANSFER IN A NONSTATIONARY BOUNDARY LAYER WITH LONGITUDINAL PRESSURE GRADIENTS (report)

S.D. Sleptsov, N.A. Rubtsov *(Novosibirsk)*. MATHEMATICAL MODELING OF RADIATIVE—CONDUCTIVE HEAT TRANSFER IN A MODIFIED CLASSICAL STATEMENT OF THE STEFAN PROBLEM (communication)

V.K. Bityukov, V.A. Petrov, I.V. Smirnov *(Moscow)*. RADIATIVE-CONDUCTIVE HEAT TRANSFER UNDER CONDITIONS OF HEATING ALUMINA BY LASER RADIATION FLUXES OF DIFFERENT DENSITIES (communication)

12.00 a.m. – 1.00 p.m.

Posters[3]

1. ***O.N. Semko*** *(Donetsk),* ***Yu.P. Ivochkin, I.O. Teplyakov*** *(Moscow),* ***O. V. Kazak*** *(Donetsk).* MODELING OF ELECTROVORTEX FLOWS IN A FINITE VOLUME OF LIQUID METAL

2. ***A.G. Karimova, S.G. Dezideriev, A.V. Gimbitskii, R.N. Gilfanov, D.G. Zakirova, E.Yu. Sarkeev*** *(Kazan).* CALCULATION OF THE EFFECTIVENESS OF DIFFERENT SCHEMES OF THERMAL PROTECTION WITH THE USE OF IMPERVIOUS AND PERMEABLE SCREENS

3. ***A.E. Ershina, Sh.A. Ershin, R.K. Manatbaev*** *(Almaty).* EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER OF THE NASA-0021 AIRFOIL CHANNEL AT DIFFERENT ANGLES OF ATTACK AND SPEEDS

4. ***V.L. Kolpashchikov, A.S. Sviridovich*** *(Minsk).* INFLUENCE OF HEAT AND MASS TRANSFER PROCESSES IN A GAS PIPELINE ON THE ACCURACY OF DETERMINING THE NATURAL GAS VOLUME FLOW RATE IN SOLVING IMBALANCE PROBLEMS

5. ***K.Kh. Gilfanov, I.F. Gataullin, D.R. Makhmutov, I.F. Mingatin*** *(Kazan).* EFFECT OF THE DISTANCE FROM THE ENTRANCE TO THE PLACE OF LOCATION OF A PAIR DIMPLE ON THE FLOW STRUCTURE IN A CAVITY WITH A SHARP EDGE

6. ***P.P. Khramtsov, O.G. Penyazkov, V.M. Grishchenko, M.Yu. Chernik, I.A. Shikh*** *(Minsk).* SPARK DISCHARGE HIGH-PRESSURE CHAMBER AS A BLINKER UNIT FOR SHADOW METHOD MEASUREMENTS

7. ***P.V. Antonov, V.S. Berdnikov*** *(Novosibirsk).* CONJUGATE CONVECTIVE HEAT TRANSFER IN GROWING CRYSTALS AND INGOTS BY THE BRIDGMAN—STOCKBARGER METHOD

8. ***O.N. Kashinskii, P.D. Lobanov, A.S. Kurdyumov, N.A. Pribaturin*** *(Novosibirsk),* ***S.E. Volkov*** *(Moscow).* HYDRODYNAMICS AND HEAT TRANSFER IN A MODEL OF FUEL ROD SIMULATORS WITH A SPACING GRID

9. ***S.O. Marach, A.I. Shnip*** *(Minsk).* ON APPLICATION OF THE PID REGULATOR IN THE SYSTEM OF THERMAL STABILIZATION OF ORBITAL OPTOELECTRONIC INSTRUMENTATION

10. ***B.I. Basok, B.V. Davydenko, M.P. Novitskaya, S.M. Goncharuk*** *(Kiev).* AERODYNAMICS AND HEAT TRANSFER FROM THE SURFACES OF ENCLOSING STRUCTURES OF THREE-STORIED OFFICE BUILDING

11. ***T. Kuciński, K. Seweryn, R. Wawrzaszek, P. Kasprowicz, L. Mankiewicz, F. Żarnecki*** *(Poland).* THERMAL CONTROL OF CCD CAMERA DEDICATED FOR AUTONOMIC ASTRONOMICAL OBSERVATION WORKING IN EARTH ENVIRONMENT

2.30 p.m. – 5.00 p.m.

V.V. Okolo-Kulak, A.S. Smetannikov, K.L. Stepanov *(Minsk).* COMPUTER MODELING OF THE HYDRODYNAMICS OF EXPLOSION ABOVE THE EARTH'S SURFACE (communication)

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[3]**Number of the paper corresponds to the number of the poster board.**

V.M. Repukhov *(Kiev)*. EXTENSION OF THE SOLUTION OF TRANSPORT EQUATIONS OF COMPOUND (RADIATIVE AND CONVECTIVE) HEAT AND MASS TRANSFER BY THE METHODS OF THE FIELD THEORY (communication)

V.I. Terekhov, A.D. Nazarov, A.F. Serov *(Novosibirsk*). INFLUENCE OF CO-CURRENT AIR FLOW PARAMETERS ON HEAT TRANSFER OF PULSE SPRAY (report)

N.I. Nikitenko *(Kiev)*. ON THE PRICIPLES OF THE MOLECULAR RADIATIVE THEORY OF TRANSFER AND PROMISING DIRECTIONS OF ITS DEVELOPMENT (communication)

K.Kh. Gilfanov, I.F. Zakirov, I.I. Mingatin, I.F. Sibgatullin *(Kazan)*. NONSTATIONARY CONVECTION OF A HORIZONTAL SEMI-INFINITE CYLINDER ON INCREASE IN THE SURFACE TEMPERATURE (communication)

V.V. Reino, V.M. Sazanovich, R.Sh. Tsvyk, M.V. Sherstobitov *(Tomsk).* EXPERIMENTAL INESTIGATIONS OF MODEL FIRE TORNADOS (communication)

V.A. Babenko, T.A. Baranova, N.N. Gnezdilov, I.M. Kozlov *(Minsk).* MODELING OF HIGH-VELOCITY IMPACT BY A METHOD OF SMOOTHED PARTICLES (communication)

B.S. Rinkevichyus, I.L. Raskovskaya, A.V. Tolkachev *(Moscow).* INVESTIGATION OF THERMOPHYSICAL PROCESSES IN A FLUID BY LASER REFRACTOGRAPHY (report)

V.A. Loshkarev *(Stavropol)*. TECHNIQUE OF DOUBLE EXPERIMENT IN ASSESSMENT OF A RADIATIVE HEAT FLUX WITH A QUANTUM ELECTRON OF TERMAL EMISSION (communication)

A.P. Lepeshkin *(Moscow).* INVESTIGATION OF PROPAGATION OF HEAT IN ROTATING DETAILS (communication)

A.G. Ivanitskii, A.S. Mikanovich, K.L. Stepanov, L.K. Stanchits, Yu.A. Stankevich *(Minsk).* CHARACTERISTICS OF THERMAL EFFECTS OF THE EXPLOSION FIRE BALL AND OF THE FLAME OF COMBUSTION OF HYDROCARBONS (communication)

S.A. Isaev, P.A. Baranov *(St. Petersburg),* ***S.V. Guvernyuk, O.O. Egorychev, O.I. Poddaeva*** *(Moscow),* ***Yu.V. Zhukova, A.D. Chornyi*** *(Minsk),* ***A.E. Usachov*** *(Moscow),* ***B.I. Basok*** *(Kiev),* ***N.V. Kornev*** *(Rostok).* ENERGY-EFFICIENT TALL BUILDINGS BASED ON THE USE OF THE PRINCIPLE OF CONTROLLING LARGE-SCALE VORTEX STRUCTURES AND WIND-ENERGY INSTALLATIONS (communication)

O.G. Penyazkov, P.P. Khramtsov, I.N. Shatan *(Minsk).* APPLICATION OF THE METHOD OF AVERAGED TALBOT IMAGES TO THE STUDY OF TURBULENT MIXING IN AN AXISYMMETRIC METHANE JET (communication)

A.A. Lopatin, A.V. Shchelchkov *(Kazan).* DIMPLED SURFACES IN FORCED CONVECTIVE SYSTEMS OF COOLING RADIOELECTRONIC EQUIPMENT (communication)

M.A. Sheremet *(Tomsk).* NUMERICAL ANALYSIS OF CONJUGATE REGIMES OF NATURAL CONVECTIVE HEAT TRANSFER IN A SYSTEM OF PASSIVE COOLING OF SEALED ELECTRONIC CELLS (communication)

5.00 p.m. – 6.00 p.m.

Posters[4]

1. ***L.K. Stanchits, K.L. Stepanov, E.A. Ershov-Pavlov, K.Yu. Katsalap*** *(Minsk).* MODELING OF SELECTIVE THERMAL RADIATION FROM A PLASMA OF COMPLEX CHEMICAL COMPOSITION

2. ***Yu.V. Zhukova*** *(Minsk)****, A.M. Terekh*** *(Kiev)****, S.A. Isaev*** *(St.Petersburg)****, E.N. Pis'mennyi*** *(Kiev).* NUMERICAL SIMULATION OF AERODYNAMIC CHARACTERISTICS AND OF HEAT TRANSFER OF ROUND TUBE BUNDLES WITH OUTER INTENSIFIERS IN A CROSS FLOW

3. ***Yu.V. Zhukova, A.D. Chornyi*** *(Minsk)*. HEAT TRANSFER ENHANCEMENT IN A HEAT CARRIER FLOW IN TUBES WITH INNER LONGITUDINAL FINNING

4. ***A.V. Kireenko, Yu.V. Zhukova*** *(Minsk).* USE OF THE OpenFOAM PACKAGE FOR CALCULATING CONJUGATE PROBLEMS OF CONVECTIVE HEAT TRANSFER

5. ***V.A. Frost*** *(Moscow)*, ***V.A. Babenko*** *(Minsk)*. MIXING IN HOMOGENEOUS TURBULENCE

6. ***A.V. Teterev, K.L. Stepanov*** *(Minsk),* ***N.A. Teterev*** *(Moscow).* SIMULATION OF THE FALLING OF FRAGMENTATED SPACE OBJECTS

7. ***P.A. Mandrik, L.V. Rudak, K.L. Stepanov, A.V. Teterev*** *(Minsk)*. SIMULATION OF THE PASSAGE OF COMET-LIKE SPACE OBJECTS THROUGH THE PLANET'S ATMOSPHERE

8. ***G.V. Kuznetsov*** *(Tomsk),* ***N.I. Kurilenko*** *(Tyumen),* ***V.I. Maksimov, G.Ya. Mamontov, T.A. Nagornova*** *(Tomsk)*. CONJUGATE HEAT TRANSFER IN A SYSTEM WITH A RADIATIVE SOURCE OF HEATING

9. ***I.G. Dudareva, A.D. Chornyi*** *(Minsk).* SIMULATION OF THE AERODYNAMICS IN A VIRTUAL WIND TUNNEL

10. ***E.V. Korobko, S.A. Gubarev, A.A. Mokeev, E.A. Bashtovaya*** *(Minsk).* MICROCONVECTIONAL THERMAL CONDUCTIVITY OF ELECTRORHEOLOGICAL FLUIDS (ERF) IN A ROTATING ELECTRICAL FIELD

11. ***N.M. Tsirel'man*** *(Ufa).* JUSTIFICATION OF THE COMPLETE STRUCTURE OF SIMILARITY EQUATIONS INVOKING FUNDAMENTAL RELATIONS OF THE HEAT TRANSFER THEORY

6.00 p.m. – 6.30 p.m.

Summing up the Results of the Section Work

[4]**Number of the paper corresponds to the number of the poster board.**

Section 2 HEAT AND MASS TRANSFER IN PHASE TRANSFORMATIONS

(Small Conference Hall of the Presidium of the National Academy of Sciences of Belarus, 1 Akademicheskaya Str.)

Section Bureau:
P.V. Akulich *(Minsk)* – Co-Chairman
L.L. Vasiliev *(Minsk)* – Co-Chairman
Yu.A. Kuzma-Kichta *(Moscow)* – Co-Chairman
N.V. Pavlyukevich *(Minsk)* – Co-Chairman
S.P. Rudobashta *(Moscow)* – Co-Chairman
L.E. Kanonchik *(Minsk)* – Scientific Secretary

Monday, September 10
2.30 p.m. – 3.30 p.m.

Posters[5]

1. ***V.N. Buz, K.A. Goncharov, G.F. Smirnov*** *(Odessa).* ON THE ROLE OF SURFACE TENSION FORCES IN HEAT TRANSFER IN FILMWISE CONDENSATION

2. ***B.M. Gasanov, N.V. Bulanov*** *(Ekaterinburg).* BOILING OF EMULSIONS WITH A LOW-BOILING DISPERSED PHASE ON THE SURFACE OF A WIRE HEATER

3. *Yu.A. Kuzma-Kichta, A.V. Lavrikov, M.V. Shustov, P.S. Chursin, A.V. Chistyakova, N.A. Stenina* *(Moscow).* INVESTIGATION OF BOILING ON THE SURFACE WITH A SUBMICRON RELIEF

4. *L.V. Romanova, I.I. Gogonin, A.R. Sal'manov* *(St.Petersburg).* EXPERIMENTAL INVESTIGATION OF HEAT AND MASS TRANSFER IN CONDENSATION OF A MOVING VAPOR—GAS MIXTURE ON THE SURFACE OF AN INCLINED CONDENSER

5. *E.A. Tairov, A.A. Levin* *(Irkutsk).* AN EXPERIMENTAL STUDY OF THE INITIAL STAGE OF INTENSIVE VAPORIZATION WITH PULSED HEAT RELEASE ON A TUBULAR SURFACE

6. *S.P. Aktershev, V.V. Ovchinnikov* *(Novosibirsk).* FORMATION OF EVAPORATION FRONT IN A LAYER OF HIGHLY OVERHEATED LIQUID

7. *V.A. Batov, O.E. Kharichev, G.I. Efremov* *(Moscow).* DESCRIPTION OF DRYING KINETICS WITH THE INNER PROBLEM BEING LIMITED BY THE MINIMUM OF EXPERIMENTAL DATA

8. *G.P. Brovka, K.V. Pyatkevich* *(Minsk).* TECHNIQUES OF NUMERICAL SIMULATION OF COUPLED HEAT AND MOISTURE TRANSFER PROCESSES AND OF THE STRESSED-STRAINED STATE OF ROCKS

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[5]**Number of the paper corresponds to the number of the poster board.**

9. ***V.N. Kovalnogov, T.V. Pavlovicheva, E.V. Fokeeva*** *(Ulyanovsk).* MODELING OF THE INFLUENCE OF A RECOVERABLE DRYING AGENT ON THE THERMAL AND MOIST STATE OF CERAMIC BRICK IN THE TECHNOLOGICAL PROCESS OF DRYING

10. ***N.I. Nikitenko, Yu. F. Snezhkin, N.N. Sorokovaya*** *(Kiev).* DEVELOPMENT OF THE MOLECULAR—RADIATIVE THEORY OF HEAT AND MASS TRANSFER IN THE PROCESSES OF DRYING AND ADSORPTION

11. ***E.V. Lipnyagov, M.A. Parshakova, G.V. Ermakov*** *(Kiev).* HIGH-SPEED VIDEO FILMING OF BOILING-UP OF A SUPERHEATED N-PENTANE AT ATMOSPHERIC PRESSURE IN TWO MUTUALLY PERPENDICULAR DIRECTIONS

12. ***E.V. Lipnyagov, M.A. Parshakova, G.V. Ermakov*** *(Kiev).* STUDY OF THE BOILING-UP OF A SUPERHEATED N-PENTANE IN A GLASS CAPILLARY DEPENDING ON TEMPERATURE BASED ON THE DATA OF HIGH-SPEED VIDEO

13. ***A.A. Lopatin, G.I. Idrisova, L.A. Makarova*** *(Kazan).* BOILING OF IMPINGING JETS OF FREON R-134a ON FINNED MICROSURFACES

14. ***N.M. Gorbachev, N.L. Solntseva, K.G. Chizhik, O.V. Prokopovich*** *(Minsk).* STUDY AND DEVELOPMENT OF THE METHODS OF ACCELERATED DRYING AND MODIFICATION OF WOOD FOR IMPARTING NEW CONSUMER PROPERTIES

3.30 p.m. – 6.30 p.m.

V.V. Yagov, M.V. Minko, N.V. Kapustina *(Moscow).* HEAT TRANSFER OF VAPOUR—LIQUID FLOWS IN HEATED SMALL-DIAMETER CHANNELS (report)

A.E. Bergles *(USA),* ***A.S. Komendantov, A.F. Krug, Yu.A. Kuzma-Kichta*** *(Moscow),* ***E.D. Fedorovich*** *(St. Petersburg).* INVESTIGATION OF BOILING CRISIS IN TWISTED FLOWS (report)

V.M. Zhukov, Yu.A. Kuzma-Kichta, V.A. Lenkov *(Moscow).* ENHANCEMENT OF HEAT TRANSFER DURING TRANSIENT AND FILM BOILING OF NITROGEN ON DIMPLED SPHERES WITH LOW-CONDUCTIVITY COATING UNDER THE CONDITIONS OF FREE CONVECTION AND NATURAL CIRCULATION (report)

A.P. Kryukov, Yu.Yu. Puzina *(Moscow).* SUPRESSION OF OSCILLATIONS OF THE VAPOR—LIQUID INTERFACE DURING BOILING OF SUPERFLUID HELIUM INSIDE A POROUS BODY (report)

A.P. Kryukov, V.Yu. Levashov *(Moscow).* MOLECULAR DYNAMIC SIMULATION OF EVAPORATION AND CONDENSATION PROCESSES. COMPARISON WITH KINETIC APPROACH (communication)

G.V. Ermakov, E.V. Lipnyagov, S.A. Perminov *(Ekaterinburg).* A REVIEW OF EXPERIMENTAL AND COMPUTATIONAL WORKS ASSOCIATED WITH THE EVALUTION OF THE VALIDITY OF THE CLASSICAL THEORY FOR HOMOGENEOUS BOILING-UP OF SUPERHEATED LIQUIDS (report)

A.V. Reshetnikov, K.A. Busov, N.A. Mazheiko, V.P. Koverda *(Ekaterinburg).* EXPLOSIVE BOILING-UP IN SUPERHEATED LIQUID JETS DISCHARGING THROUGH A SLIT CHANNEL (report)

V.G. Baidakov, A M. Kaverin, V.N. Andbaeva *(Ekaterinburg),* ***A.O. Maksimov*** *(Vladivistok),* ***A.S. Pankov*** *(Ekaterinburg).* INITIATION OF BOILING-UP OF SUPERHEATED CRYOGENIC LIQUIDS (report)

I.A. Popov *(Kazan),* ***N.N. Zubkov, S.I. Kaskov*** *(Moscow),* ***A.V. Shchelchkov*** *(Kazan).* POOL BOILING OF VARIOUS LIQUIDS ON MICROSTRUCTURED SURFACES (report)

I.K. Zharova, G.V. Kuznetsov, E.A. Maslov *(Tomsk),* ***V.I. Terekhov*** *(Novosibirsk).* NUMERICAL SIMULATION OF THE INTERACTION OF A TURBULENT TWO-PHASE FLOW WITH BARRIER OF COMPLEX SHAPE (communication)

E.A. Tairov *(Irkutsk).* EFFECT OF HEAT TRANSFER IN GRANULAR MEDIUM ON THE VALUE OF EQUILIBRIUM VELOCITY OF SOUND IN VAPOR—LIQUID MIXTURE (communication)

L.L. Vasiliev, A.S. Zhuravlyov *(Minsk).* HEAT TRANSFER DURING EVAPORATION OF LIQUID IN A HEATED POROUS WALL OF A HORIZONTAL CYLINDER (report)

O.N. Kashinskii, P.D. Lobanov, A.V. Chinak, M.A. Vorobiev *(Novosibirsk).* FORMATION OF GAS BUBBLES IN A VERTICAL LIQUID FLOW (communication)

A.V. Morozov, O.V. Remizov, D.S. Kalyakin *(Obninsk).* STUDY OF HEAT TRANSFER PROCESSES IN UNDEVELOPED WATER BOILING ON A SINGLE HORIZONTAL TUBE HEATED BY CONDENSING STEAM (communication)

V.E. Vinogradov, P.A. Pavlov *(Ekaterinburg).* COLLAPSE OF A VAPOR FILM OF WATER AND FREON 113 ON THE SURFACE OF A HOT PLATINUM WIRE (communication)

I.A. Gishkelyuk, N.N. Grinchik, S.P. Kundas *(Minsk).* NUMERICAL SOLUTION OF THE SYSTEM OF EQUATIONS FOR NONISOTHERMAL TRANSFER OF MOISTURE AND DISSOLVABLE SUBSTANCES IN CAPILLARY-POROUS MEDIA (communication)

Tuesday, September 11
2.30 p.m. – 6.30 p.m.

P.V. Akulich *(Minsk),* ***A.V. Akulich*** *(Mogilev),* ***A.V. Temruk*** *(Minsk).* SIMULATION AND EXPERIMENTAL INVESTIGATION OF HEAT AND MOISTURE TRANSFER UNDER CONDITIONS OF SHF CONVECTIVE DRYING OF VEGETABLE MATERIALS (report)

A.I. Filkov, A.M. Grishin, D.A. Gladkii *(Tomsk).* PARAMETRIC ANALYSIS OF A MATHEMATICAL MODEL OF DRYING A PEAT LAYER (report)

G.N. Stankevich, O.I. Gaponyuk, I.N. Butsenko *(Odessa).* TOPICAL PROBLEMS OF HEAT AND MOISTURE TRANSFER IN MODERN METAL GRANARIES IN UKRAINE (report)

O.R. Dornyak *(Voronezh),* ***L.V. Markova*** *(Vitebsk).* NUMERICAL MODELING OF TRANSFER PROCESSES IN THE VAPOR—GAS PHASE UNDER CONDITIONS OF THERMAL TREATMENT OF COLLOIDAL CAPILLARY-POROUS MATERIALS (report)

G.I. Efremov *(Moscow).* FINDING THE TEMPERATURE DEPENDENCE FOR THE FIRST PERIOD OF DRYING BY THE METHOD OF PLANNING AN EXPERIMENT (report)

P.N. Mikhailov, A.I. Filippov *(Sterlitamak),* ***A.P. Mikhailov*** *(Dolgoprudnyi).* MODELING OF HEAT AND MASS TRANSFER DURING FILTRATION OF CHEMICAL AND RADIOACTIVE FLUIDS IN LAYERED MEDIA (report)

A.I. Filippov *(Sterlitamak),* ***O.V. Akhmetova*** *(Slavat, Russia),* ***G.F. Zamanova*** *(Sterlitamak).* FILTRATION-WAVE FIELDS IN A HETEROGENEOUS POROUS MEDIUM (report)

Yu.F. Snezhkin *(Kiev).* ENERGY EFFICIENCY IN THE PROCESSES OF DRYING (report)

Yu.F. Snezhkin, Zh.A. Petrova, V.M. Pazyuk *(Kiev).* ENERGY EFFICIENT REGIME OF DRYING ANTIOXIDANT VEGETABLE RAW MATERIAL (communication)

E.Yu. Razumov, R.R. Safin, P.A. Kainov *(Kazan).* HEAT AND MASS TRANSFER IN LUMBER IN THE PROCESS OF THERMAL MODIFICATION (communication)

V.A. Sychevskii, V.L. Dragun, B K. Lovetskii, N.M. Gorbachev *(Minsk).* EXPERIMENTAL DETERMINATION OF STRESSES ON THE SURFACE OF SAW-TIMBERS IN THE PROCESS OF DRYING (communication)

G.N. Stankevich, L.K. Ovsyannikova, E.G. Sokolovskaya *(Odessa).* INVESTIGATION OF THE LAWS GOVERNING THE DRYING OF FLAX SEEDS (communication)

O.G. Burdo, I.I. Yarovoi, O.M. Kurakov *(Odessa).* COMBINED PROCESSES IN RAW MATERIAL DEHYDRATION (communication)

M.A Goreshnev, V.V Lopatin, F.G Sekisov, O.V.Smerdov *(Tomsk).* CHARACTERISTIC FEATURES OF WOOD DRYING BY A COMBINED METHOD AT REDUCED PRESSURE (communication)

M.N. Gamrekeli *(Ekaterinburg).* COLD AS THE ENERGY SAVING FACTOR IN TWO-STAGE DRYING OF DISPERSE MATERIALS (communication)

O.V. Sharypov, P.A. Kuibin *(Novosibirsk).* EFFECT OF INERTIA AND THERMOCAPILLARITY ON THE STRUCTURE OF NONISOTHERMAL LIQUID FILM FLOW (communication)

Wednesday, September 12
9.00 a.m. – 10.00 a.m.

Posters[6]

1. ***M.K. Bologa, F.P. Grosu, I.V. Kozhevnikov, A.A. Polikarpov, O.V. Motorin*** *(Chişinaú, Moldova).* HEAT TRANSFER IN ELECTROHYDRODYNAMIC PUMPING OF A TWO-PHASE HEAT CARRIER

2. ***K.A. Busov, A.V. Reshetnikov, N.A. Mazheiko*** *(Ekaterinburg).* REACTIVE FORCE OF SUPERHEATED LIQUID JETS AT OUTFLOW THROUGH A SLIT CHANNEL

3. ***V.E. Tuz, N.L. Lebed, R.V. Neilo*** *(Kiev).* HYDRODYNAMICS OF GAS—LIQUID SYSTEMS IN CHANNELS WITH A NETWORK COVERING

4. ***M.Z. Faizullin, V.P. Koverda, A.V. Vinogradov*** *(Ekaterinburg).* VITRIFICATION AND CRYSTALLIZATION OF LOW-TEMPERATURE AMORPHOUS CONDENSATES OF WATER—METHANE AND WATER—PROPANE MIXTURES

5. *M.A. Fatykhov, S.B. Shagapov* *(Ufa).* ENTHALPY APPROACH TO THE STUDY OF PHASE TRANSITIONS IN ELECTROMAGNETIC HEATING OF DEPOSITS IN A COAXIAL SYSTEM

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[6]**Number of the paper corresponds to the number of the poster board.**

6. ***S.P. Aktershev*** *(Novosibirsk).* HEAT TRANSFER IN CONDENSATE WAVE FILM BLOW

7. ***V.I. Kondrashov, A.M. Moiseenko*** *(Orel).* HEAT AND MOISTURE CONTENT ANALYSIS OF AN INHOMOGENEOUS MASS OF STORED AGRICULTURAL PRODUCTS

8. ***M.A. Leksin, A.R. Zabirov, O.V. Shapoval, V.V. Yagov*** *(Moscow).* EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER UNDER CONDITIONS OF COOLING METAL BALLS IN A SUBCOOLED LIQUID

9. ***V.A. Mikhailik, Yu.F. Snezhkin, N.V. Dmitrenko*** *(Kiev).* BOUND WATER IN WOOD

10. ***R.Sh. Enaleev*** *(Kazan),* ***A.F. Gabidullin*** *(Nizhnekamsk),* ***É.Sh. Telyakov*** *(Kazan),* ***G.M. Zakirov*** *(Nizhnekamsk).* HEAT AND MASS TRANSFER IN A PACKAGE OF CLOTHES SUBJECTED TO INTENSIVE HEATING

11. ***F.G. Akhmadiev, R.R. Fazylzyanov, R.A. Galimov*** *(Kazan).* NONISOTHERMAL FLOW OF TWO-PHASE MEDIA ON PERMEABLE SURFACES

12. ***B.I. Basok, T.A. Rezakova*** *(Kiev).* INVESTIGATION OF TEMPERATURE AND CONCENTRATION FIELDS IN AN UNDERGROUND POROUS STRATUM

13. ***A.V. Seryakov*** *(Velikii Novgorod).* APPLICATION OF STEAM JET NOZZLE IN HEAT PIPES OF MEAN TEMPERATURE RANGE

14. ***E.S. Alekseik, V.Yu. Kravets*** *(Kiev).* EFFECT OF THE NUMBER OF TURNS ON THE HEAT TRANSFER CHARACTERISTICS OF A SINGLE TURN OF OSCILLATING HEAT PIPES

10.00 a.m. – 1.00 p.m.

N.M. Kortsenshtein, E.V. Samuilov *(Moscow).* HEAT AND MASS TRANSFER IN THE PROCESS OF BULK CONDENSATION UNDER CONDITIONS OF HETEROGENEOUS REACTION (report)

N.M. Kortsenshtein, A.K. Yastrebov *(Moscow).* HEAT AND MASS TRANSFER UNDER CONDITIONS OF BULK CONDENSATION INA DUSTY VAPOR–GAS FLOW (communication)

M. Valincius, A. Kaliatka, E. Uspuras *(Kaunas, Lithuania).* EXPERIMENTAL INVESTIGATIONS OF INTERPHASE SHEAR IN A STRATIFIED TWO-PHASE CONDENSING FLOW (report)

V.V. Yagov, M.V. Minko *(Moscow).* APPROXIMATE MODEL OF THE ENTRAINMENT OF DROPLETS IN AN ANNULAR-DISPERSED TWO-PHASE FLOW (report)

M. Ait Saada, S. Chikh *(Algeria),* ***L. Tadrist*** *(France),* ***S. Radev*** *(Bulgaria).* DROP EVAPORATION ON AN ISOTHERMAL OR ADIABATIC SOLID SURFACE (report)

S. Tabakova *(Plovdiv, Bulgaria),* ***F. Feuillebois*** *(France),* ***V. Daru*** *(Paris, France),* ***S. Radev*** *(Sofia, Bulgaria).* FREEZING OF A MOVING FILM DUE TO AN AIR FLOW CARRYING SUPERCOOLED DROPLETS (communication)

V.I. Terekhov, N.E. Shishkin *(Novosibirsk).* HEAT AND MASS TRANSFER OF DROPS OF BINARY LIQUIDS IN AN AIR FLOW (report)

G.P. Brovka, K.A. Agutin *(Minsk).* SIMULATION OF TEMPERATURE AND MOISTURE CONDITIONS AND FROST HEAVING IN FREEZING DISPERSE MEDIA (report)

P.P. Permyakov, A.P. Ammosov, G.G. Popov *(Yakutsk).* ESTIMATION OF THE EXTENT OF HEAVING AND SHRINKAGE OF LINEAR STRUCTURES IN FROZEN GROUNDS (communication)

E.A. Bondarev, I.I. Rozhin, K.K. Argunova *(Yakutsk).* INFLUENCE OF NONISOTHERMAL EFFECTS ON GAS PRODUCTION IN NOTHERN REGIONS WITH ACCOUNT FOR THE POSSIBLE HYDRATE FORMATION IN THE WELL BOTTOM HOLE (report)

V.P. Koverda, V.N. Skokov *(Ekaterinburg).* STABILITY OF LOW-FREQUENCY PULSATIONS IN CRITICAL AND TRANSIENT REGIMES OF HEAT AND MASS TRANSFER WITH PHASE TRANSITIONS (report)

N.I. Nikitenko, Yu.F. Snezhkin, N.N. Sorokovaya, Yu.N. Kolchik *(Kiev).* METHOD OF DISCRETE ALIGNMENT TO SOLVE THE INVERSE COFFICIENT PROBLEM OF MOISTURE DIFFUSION IN POROUS SYSTEMS (report)

N.N. Grinchik, Yu.N. Grinchik *(Minsk),* ***A.L. Adamovich*** *(Novopolotsk).* HEAT AND MASS TRANSFER IN CAPILLARY-POROUS MEDIA UNDER CONDITIONS OF MICROWAVE HEATING (report)

S.I. Dmitriev, P.S. Grinchuk, N.V. Pavlyukevich *(Minsk).* MATHEMATICAL MODEL AND EXPERIMENTAL RESULTS FOR THE PROCESS OF FORMATION OF CARBON BLACK IN HIGH-TEMPERATURE GAS MIXTURES (communication)

R.I. Nigmatulin, A.A. Solovyev, K.V. Chekarev *(Moscow).* HEAT AND MASS TRANSFER DURING CONDENSATION IN AN AIR—WATER SYSTEM (communication)

2.30 p.m. – 6.30 p.m.

S.V. Vershinin, Yu.F. Maidanik *(Ekaterinburg).* RESULTS OF TESTING FLEXIBLE MINIATURE LOOP HEAT PIPES (report)

O.G. Burdo, G.F. Smirnov, S.G. Terziev *(Odessa).* HEAT TRANSFER IN VAPORIZATION ON PROFILED SURFACES OF LOW-TEMPERATURE HEAT PIPES (report)

L.L. Vasiliev, L.L. Vasiliev Jr. *(Minsk).* VAPOR-DYNAMICAL THERMOSYPHON AS EFFICIENT HEAT-TRANSMITTING DEVICES FOR LONG-DISTANCE HEAT TRANSFER (report)

O.G. Burdo, G.F. Smirnov, S.G. Terziev *(Odessa).* TRANSFER PROCESSES IN HEAT PIPES IN LONG SERVICE AND THE PROBLEM OF THEIR RESOURCE (communication)

M.Yu. Lyakh, O.S. Rabinovich, L.L. Vasiliev *(Minsk).* EFFECT OF CAPILLARY CONDENSATION OF SORBATE ON THE EFFICIENCY OF ABSORPTION THERMAL ENERGY CONVERTERS (communication)

L.L. Vasiliev, L.P. Grakovich, M.I. Rabetskii *(Minsk),* ***D.V. Tulin*** *(Moscow).* POROUS LAYER ACTION ON EVAPORATION FROM CAPILLARY GROOVES (communication)

O.V. Vysokomornaya, G.V. Kuznetsov, P.A. Strizhak *(Tomsk).* NUMERICAL INVESTIGATION OF HEAT AND MASS TRANSFER IN THE SYSTEM "SINGLE DROP OF WATER–HIGH-TEMPERATURE GAS MIXTURE" (report)

F.V. Pelevin, V.V. Lozovetskii, P.Yu. Semenov *(Moscow).* HEAT TRANSFER AND HYDRODYNAMICS IN POROUS METALS WITH TWO-DIMENSIONAL COOLANT FLOW (report)

A.V. Reshetnikov, K.A. Busov, N.A. Mazheiko, V.P. Koverda *(Ekaterinburg).* EXPLOSIVE BOILING-UP IN SUPERHEATED LIQUID JETS DISCHARGING THROUGH A SLIT CHANNEL (communication)

V.I. Ryazhskikh, A.V. Ryazhskikh, A.A. Boger *(Voronezh).* DISSOLUTION OF THE PRECIPITATE TRACE CASTING OF NITROGEN AND OXYGEN DURING STORAGE OF LIQUID HYDROGEN IN CRYOGENIC TANK (communication)

M.I. Nizovtsev, A.N. Sterlyagov, V.I. Terekhov *(Novosibirsk).* INVESTIGATION OF HEAT TRANSFER PROCESSES ON MOISTENING POROUS MATERIALS BY THE METHOD OF IR THERMOGRAPHY (communication)

S.N. Osipov *(Minsk).* NEW DIRECTIONS IN CREATION OF NONFREEZING HEAT EXCHANGERS FOR LOW-POTENTIAL STEAM-TO-GAS MIXES (communication)

A.R. Lepeshkin *(Moscow).* A COMPLEX MATHEMATICAL MODEL OF INDUCTION HEATING AND HARDENING OF PARTS WITH ACCOUNT FOR PHASE TRANSFORMATIONS AND INTENSIVE COOLING (communication)

M.A. Fatykhov, L.M. Fatykhov *(Ufa).* EXPERIMENTAL STUDY OF PHASE TRANSITIONS IN AN ELECTROMAGNETIC FIELD (communication)

L.L. Vasiliev Jr., M.Yu. Lyakh *(Minsk).* INVESTIGATION OF HEAT AND MASS TRANSFER IN MINICHANNELS AS THE LHP CONDENSER (communication)

Section 3 HEAT AND MASS TRANSFER IN TECHNOLOGICAL PROCESSES AND EQUIPMENT

(Hall of Meetings of the Presidium of the National Academy of Sciences of Belarus, 66 Nezavisimost Ave.)

Section Bureau:
P.S. Grinchuk (*Minsk)* – Co-Chairman
G.I. Zhuravskii *(Minsk)* – Co-Chairman
E.N. Pis'mennyi *(Kiev)* – Co-Chairman
A.S. Matveichuk *(Minsk)* – Scientific Secretary

Monday, September 10
2.30 p.m. – 6.30 p.m.

L.E. Kanonchik *(Minsk).* NUMERICAL ANALYSIS OF COMPLEX HEAT AND MASS TRANSFER PROCESSES IN A SORBER WITH HYDROGENOUS GAS AND A HEAT PIPE (report)

L.L. Vasiliev, A.S. Zhuravlyov, A.A. Antukh, O.S. Filatova, L.A. Dragun, A.P. Tsitovich, M.N. Kovalyova *(Minsk).* NONELECTRICAL SORPTION MACHINES FOR GENERATION OF COLD (report)

V.V. Klubovich, M.M. Kulak *(Vitebsk),* ***B.B. Khina*** *(Minsk).* EFFECT OF ULTRASONIC OSCILLATIONS ON THE SHS PROCESSES IN A MULTICOMPONENT TITANIUM—CARBON—NICKEL—MOLYBDENUM SYSTEM (report)

V.V. Kuzmich, N.F. Kapustin, É.K. Snezhko, D.V. Degterov *(Minsk).* PROSPECTS OF USING HEAT ENGINES IN SOLAR ENGINEERING DEVICES FOR PUMPING LIQUIDS (communication)

V.G. Tonkonog *(Kazan).* GASIFICATION OF CRYOGENIC FLUIDS (communication)

V.B. Troshen'kin, K.M. Khomyak, B.A. Troshen'kin *(Kharkov).* HEAT AND MASS EXCHANGE IN PRODUCTION OF HYDROGEN BY RADIOLYSIS OF WATER—COAL SUSPENSION) (communication)

D.G. Grigoruk, E.V. Kasilova *(Moscow).* MASS TRANSFER OF A BINARY FUEL MIXTURE IN THE ANODE OF A SOLID OXIDE FUEL CELL (communication)

V.G. Minkina, S.I. Shabunya, V.I. Kalinin, V.V. Martynenko *(Minsk),* ***H. Yoshida*** *(Japan).* SODIUM BOROHYDRIDE FOR PRODUCTION OF HIGH PURITY HYDROGEN (communication)

N.I. Mirmov, M.A. Pleshchinskii, A.A. Vasiliev *(Izrael).* COMBINED SOLAR COLLECTORS WITH HEAT PIPES (communication)

S.O. Filatov, V.I. Volodin *(Minsk).* NUMERICAL MODELING OF THE CONTOUR OF EVAPORATOR AND BOREHOLE HEAT EXCHANGER (communication)

Tuesday, September 11

2.30 p.m. – 3.30 p.m.

Posters[7]

1. ***V.A. Bilyk, E.V. Korobko, A.A. Makhanek*** *(Minsk).* SIMULATION OF HEAT TRANSFER IN NONSTATIONARY DISSIPATIVE FLOW OF AN ELECTROREOLOGICAL FLUID IN AN ANNULAR CHANNEL WITH ACCOUNT FOR THE CHANGE IN THE RHEOLOGICAL CHARACTERISTICS WITH THE TEMPERATURE AND ELECTRIC FIELD STRENGTH

2. ***D.G. Grigoruk, V.D. Keller, E.B. Khristenko, É.N. Tsertsvadze*** *(Moscow).* INVESTIGATIONS OF HEAT AND MASS TRANSFER IN PASSIVE AUTOCATALITYC RECOMBINERS OF HYDROGEN

3. ***E.V. Korobko, A.A. Bartashevich, A.A. Makhanyok, N.A. Bedik*** *(Minsk).* RADIATIVE-CONVECTIVE HEAT TRANSFER IN THE PREHEATING OF VENEER FOR FURTHER COMPACTION

4. ***M.K. Kosheleva, Yu.A. Chabaeva, A.P. Bulekov*** *(Moscow).* MASS TRANSFER IN THE FINISHING PRODUCTION PROCESSES OF TEXTILE TECHNOLOGIES

5. ***A.N. Makarov, V.V. Rybakova, E.V. Kruglov*** *(Tver).* USE OF REVEALED REGULARITIES FOR REDUCING ELECTRIC ENERGY CONSUMPTION IN ELECTROMETALLURGICAL FURNACES

6. ***N.M. Gorbachev, D.S. Slizhuk, I.V. Zhavnerko, N.E. Stakhovskaya*** *(Gomel).* THERMAL TREATMENT AND DRYING OF RECYCLED REFUSE MATERIAL OF THE MINERAL WOOL SLABS PRODUCTION

7. ***L.S. Stelmakh, A.M. Stolin*** *(Chernogolovka),* ***B.B. Polyakov, D.S. Dvoretskii*** *(Tambov).* OPTIMAL DESIGN OF A MOLD FOR THE HIGH-TEMPERATURE SYNTHESIS OF HARD-ALLOYED MATERIALS

8. ***P.M. Bazhin, A.M. Stolin, A.E. Shteinman*** *(Chernogolovka).* CHARACTERISTIC FEATURES OF THE PROCESS OF SHS-EXSTRUSION ON MULTISTAGE PRESSING

9. ***N.Ya. Tsislinskaya, M.P. Bernik, A.S. Lupashko, E.Ya. Chiovanu*** *(Chişinaú, Moldova).* ENERGY SUPPLY OPTIMIZATION OF THE PROCESS OF DRYING WITH AN INTERNAL HEAT SOURCE

10. ***Yu.A. Taran*** *(Moscow).* POSSIBILITIES OF ENERGY SAVING IN THE TECHNOLOGIES OF GRANULATION AND CAPSULATION ON CRISTALLIZATION OF MELT DROPS

3.30 p.m. – 6.30 p.m.

V.V. Belousov, V.I. Bondarenko, F.V. Nedopekin, Ya.V. Pavlov *(Donetsk).* DEVELOPMENT OF SOFTWARE FOR CALCULATING THE PROBLEMS OF HYDRODYNAMICS AND HEAT AND MASS TRANSFER FOR SOLIDIFICATION OF A STEEL INGOT (report)

S.P. Rudobashta *(Moscow),* ***V.T. Kazub*** *(Pyatigorsk),* ***A.G. Borisov*** *(Moscow).* MASS EXCHANGE DURING SPUTTER-ION EXTRACTING OF TARGET COMPONENTS FROM VEGETABLE RAW MATERIAL (report)

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[7]Number of the paper corresponds to the number of the poster board.

S.G. Terziev, N.V. Ruzhitskaya, A.A. Borshch *(Odessa).* KINETICS OF HEAT AND MASS TRANSFER PROCESSES IN THE TECHNOLOGY OF FOOD CONCENTRATES (report)

V.I. Timoshpolskii, I.A. Trusova *(Minsk).* ASPECTS OF NONLINEAR THERMOPHYSICS IN METALLURGICAL FURNACES (report)

L.S. Stelmakh, A.M. Stolin *(Chernogolovka).* MATHEMATICAL SIMULATION OF THE SOLID-PHASE EXTRUSION OF FLUOROPOLYMERS (report)

M.P. Bernik, A.S. Lupashko, N.Ya. Tsislinskaya, E.I. Chobanu, M.G. Rădukan, Yu.G. Dohmilă *(Chişinaú, Moldova).* PULSED SUPPLY OF INTERNAL HEAT SOURCE IN THE PROCESS OF DRYING OIL-BEARING CROPS (communication)

P.M. Bazhin, L.S. Stelmakh, A.M. Stolin *(Chernogolovka),* ***E.V. Kostitsina*** *(Moscow).* ON COMPETITION OF THE PROCESSES OF SHIFT DEFORMATION AND VOLUMETRIC PACKING OF CERMET MATERIALS IN SHS- EXTRUSION (communication)

D.A. Parshin, L.S. Stelmakh, A.M. Stolin *(Chernogolovka).* INFLUENCE OF THE DISPERSITY OF METAL-BOND ON THE KINETICS PACKINGS OF PACKING DURING THE SHS-COMPACTION OF REFRACTORY MATERIALS (communication)

Yu.K. Krivosheev, V.L. Kolpashchikov, A.I. Shnip *(Minsk).* SIMULATION OF MCVD PROCESSES OF THE SYNTHESIS OF NEW MATERIALS (communication)

V.L. Kolpashchikov, G.E. Malashkevich, M.N. Kapshai, B.V. Plyushch *(Minsk).* HIGH-HYDROXYL QUARTZ GLASSES AND HEAT TRANSFER PROCESSES IN DRAWING FIBER FROM THEM (communication)

Yu.A. Taran, T.I. Pynkova, A.L. Taran *(Moscow).* ECO-FRIENDLY AND ENERGY-SAVING TECHNOLOGIES OF GRANULES ENCAPSULATING BY WATERPROOF THIN POLYMERIC MEMBRANES (communication)

S. Altaiuly *(Astana, Kazakhstan)****, S.T. Antipov, I.O. Pavlov*** *(Voronezh).* ANALYSIS OF MASS TRANSFER ON REMOVAL OF MOISTURE FROM PHOSPHOLIPID EMULSIONS IN A ROTARY-FILM APPARATUS (communication)

V.N. Bandura *(Vinnitsa),* ***S.M. Buivol*** *(Odessa).* HEAT AND MASS TRANSFER IN EXTRACTION OF OIL FROM A RAW MATERIAL WITH THE USE OF MICROWAVE POWER SUPPLY (communication)

F.V. Nedopekin *(Donetsk),* ***V.A. Kravets*** *(Makeevka),* ***V.V. Bodryaga, V.V.Belousov, V.M. Melikhov*** *(Donetsk).* HEAT AND MASS TRANSFER PROCESSES IN A DROP OF PIG IRON DURING FORMATION OF RED FUME (communication)

Wednesday, September 12
9.00 a.m. – 1.00 p.m.

T.V. Sidorovich, V.I. Baikov *(Minsk).* MEANS FOR INCRESING THE POWER EFFICIENCY OF MINIATURE RECUPERATIVE HEAT-EXCHANGE EQUIPMENT FOR VISCOUS FLUIDS (report)

M.I. Shilyaev, E.M. Khromova *(Tomsk).* A PHYSICOMATHEMATICAL MODEL OF HEAT AND MASS TRANSFER AND OF ABSORPTION—CONDENSATION DUST—GAS-CLEANING IN JET SCRUBBERS (report)

E.N. Pis'mennyi *(Kiev).* INTENSIFIED TUBULAR HEATING SURFACES FOR GAS–GAS-TYPE HEAT EXCHANGERS (report)

B.V. Dzyubenko, A.S. Myakochin, N.U. Shcherbakova *(Moscow).* ENHANCEMENT OF HEAT TRANSFER IN SALT AND COKE DEPOSITION IN CHANNELS WITH THE USE OF VORTEX TECHNOLOGIES (report)

A.A. Dolinskii, D.M. Chalaev, L.N. Grabov *(Kiev).* DEVELOPMENT AND INVESTIATION OF A RECUPERATIVE HEAT EXCHANGER BASED ON A VAPOR–LIQUID THERMOSYPHON (report)

O.G. Martynenko, N.M. Gorbachev, V.A. Babenko *(Minsk).* EFFECTIVENESS OF HEAT TRANSFER INTENSIFICATION IN A COMPACT SHELL-AND-TUBE HEAT EXCHANGER (communication)

O.G. Martynenko, N.M. Gorbachev, V.A. Babenko, O.V. Prokopovich *(Minsk).* CHARACTERISTIC FEATURES OF THE DEVELOPMENT OF HIGH-ENERGY SHELL-AND-TUBE HEAT EXCHANGERS (communication)

B.S. Soroka, N.V. Vorobyov, V.A. Zgurskii, V.S. Kudryavtsev *(Kiev).* HEAT TRANSFER AND HYDRAULIC RESISTANCE IN A HIGH-TEMPERATURE RECUPERATOR (communication)

A.V. Sokolov, A.Yu. Bolshikhin, V.S. Belousov *(Ekaterinburg).* CHARACTERISTIC FEATURES OF THE THERMAL REGIME OF ROTATING REGENERATIVE AIR HEATERS (communication)

M.K. Zakharov, O.A. Sazonova, A.M. Il'chenko *(Moscow).* ANALYSIS OF ENERGY SAVING IN RECTIFICATION OF BINARY AND TERNARY MIXTURES (report)

V.I. Volodin, V.B. Kuntysh, N.G. Petreeva *(Minsk),* ***A.N. Bessonnyi, E.A. Bessonnyi*** *(St.Petersburg).* INFLUENCE OF EXTERNAL FOULING ON THE EFFICIENCY OF AIR-COOLED HEAT EXCHANGERS (communication)

2.30 p.m. – 3.30 p.m.

Posters[8]

1. ***A.A. Al-Musa*** *(Saudi Arabia),* ***S.I. Shabunya, V.V. Martynenko, V.I. Kalinin*** *(Minsk),* ***S.I. Al-Mayman, M.S. Al-Juhani, K.B. Al-Enazy*** *(Saudi Arabia).* EFFECT OF PREHEATING AND THERMAL LOSSES ON THE COMPOSITION OF METHANE PARTIAL OXIDATION PRODUCTS IN CATALYTIC REACTORS

2. ***B. R.Mubarakshin, F.Sh. Serazetdinov, V.G.Tonkonog*** *(Kazan).* USE OF EJECTOR IN DEVICES OF NATURAL GAS ODORIZATION

3. ***S.I. Shabunya, A.A. Nesteruk*** *(Minsk).* EXPERIMENTAL STUDY OF SODIUM BOROHYDRIDE HYDROLYSIS AT HIGH ALKALI CONCENTRATION IN SOLUTIONS

4. ***M.N. Nikitin*** *(Samara).* EXPERIMENTAL INVESTIGATION OF THE PROCESS OF PRODUCTION OF A GAS—VAPOR HEAT TRANSFER AGENT IN CONTACT STEAM-AND-SMOKE MIXTURE GENERATOR

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[8]Number of the paper corresponds to the number of the poster board.

5. ***A.R. Salmanov*** *(St.Petersburg).* SCHEME AND ALGORITHM OF CALCULATION OF A GAS-PURIFYING CONDENSER

6. ***E.A. Tsynaeva, A.A. Tsynaeva*** *(Ulyanovsk).* NUMERICAL SIMULATION OF DYNAMIC REGIMES OF OPERATION OF THE SYSTEMS OPTIMIZING HEAT CONSUMPTION BY BUILDINGS

7. ***A.L. Mosse, V.V. Savchin*** *(Minsk).* HEAT TRANSFER PROCESSES IN PLASMA FURNACES FOR WASTE PROCESSING

8. ***V.V. Odinokov, G.Ya. Pavlov, V.K. Samoilikov, P.A. Irakin*** *(Moscow).* EFFECT OF GAS DYNAMICS ON THE PROCESS OF VAPOR DEPOSITION OF STRUCTURES ACTIVATED BY A LOW-TEMPERATURE PLASMA

9. ***I.V. Khvedchin, V.V. Savchin, A.S. Olenovich, G.V. Dolgolenko*** *(Minsk).* APPLICATION OF THERMAL PLASMA TECHNOLOGY FOR VITRIFICATION OF ASH RESIDUES OF POWER PLANTS

10. ***A.G. Murav'ev, A.S. Zhdanov, V.N. Dunin, R.I. Khisamov*** *(Velikii Novgorod).* INVESTIGATION OF HEAT AND MASS TRANSFER PROCESSES IN HOLLOW CONTACT ECONOMIZERS

3.30 p.m. – 6.30 p.m.

V.A. Arkhipov, S.S. Bondarchuk, A.S. Zhukov *(Tomsk).* EVOLUTION OF A PRECURSOR DROP IN PLASMACHEMICAL SYNTHESIS OF CERAMIC POWDERS (report)

D.A. Takopulo, S.P. Fisenko *(Minsk).* HEAT AND MASS TRANSFER DURING FORMATION OF SUPERSATURATED CARBON SOLID SOLUTIONS IN THE WALL OF A PLASMACHEMICAL REACTOR (report)

G.I. Zhuravskii, A.S. Matveichuk *(Minsk).* THERMOLYSIS OF ORGANIC MATERIALS IN A VAPOR—GAS ENVIRONMENT (communication)

G.I. Zhuravskii, A.S. Matveichuk *(Minsk).* THERMAL TECHNOLOGIES OF OBTAINING FUELS FROM ORGANIC WASTES (communication)

E.B. Kulumbaev, T.B. Nikulicheva *(Belgorod).* MASS, HEAT, AND CURRENT TRANSFER IN A TWO-JET ELECTRIC ARC (communication)

A. Tamošiūnas, P. Valatkevičius, V. Valinčius, V. Grigaitienė *(Kaunas, Lithuania).* HEAT TRANSFER IN THE ARC DISCHARGE CHANNEL STABILIZED WITH A STEAM WATER VAPOR VORTEX (communication)

A. Marquesi, A. Gorbunov, C. Otani, G. Petraconi Filho *(Sao José dos Campos, Brazil),* ***A. Bublievskii, A. Galinovskii*** *(Minsk).* THERMOPHYSICAL INVESTIGATION OF EFFICIENCY PARAMETERS FOR PLASMA ARC-ASSISTED GASIFICATION OF SPRAYED HYDROCARBON-BASED WASTES (communication)

A.F. Bublievskii *(Minsk),* ***A.V. Gorbunov*** *(Minsk, Sao José dos Campos, Brazil),* ***D.A. Bublievskii*** *(Vitoria, Brazil).* DUAL MODE JET MODEL OF ELECTRIC ARC IN A TWIN-TYPE PLASMA TORCH (communication)

A.V. Lozhechnik, A.L. Mosse, I.V. Khvedchin, V.V. Savchin, A. N. Nikonchuk *(Minsk).* DESTRUCTION OF TOXIC WASTE IN A PLASMA REACTOR (communication)

A.N. Nikonchuk, A.L. Mosse, I.V. Khvedchin, V.V. Savchin, A.V. Lozhechnik, D.S. Skomorokhov *(Minsk).* MODELING OF THE PROCESS OF BIOMEDICAL WASTE PROCESING IN PLASMA FACILITIES (communication)

E.A Orlova, F.A Kozlov, V.V Alekseev, A.V. Drobyshev, V.G Zhmurin, S.A. Zagrebaev, I.I. Zasorin, I.Yu. Torbenkova, V.S. Egorov, A.N. Volov *(Obninsk).* MASS TRANSFER IN LIQUID METAL USED IN THE TECHNOLOGY OF PHOSPHATE WASTE REPROCESSING (communication)

Section 4 HEAT AND MASS TRANSFER IN POWER ENGINEERING FACILITIES

(Conference Hall of the Institute of History of the National Academy of Sciences of Belarus, 1 Akademicheskaya Str.)

Section Bureau:
E.A. Boltenko *(Elektrogorsk)* – Co-Chairman
V.A. Borodulya (*Minsk)* – Co-Chairman
Yu.S. Teplitskii *(Minsk)* – Co-Chairman
E.D. Fedorovich (*St.Petersburg)* – Co-Chairman
A.V. Akulich *(Minsk)* – Scientific Secretary

Monday, September 10
2.30 p.m. – 4.00 p.m.

Yu.A. Anikin, I.S. Anufriev, D.V. Krasinskii, V.V. Salomatov, E.Yu. Shadrin, O.V. Sharypov *(Novosibirsk).* NEW-TYPE VORTEX STEAM GENERATOR: MODELING OF FURNACE PROCESSES (report)

I.I. Lishtvan, P.L. Falyushin *(Minsk).* STATE AND TENDENCIES OF THE DEVELOPMENT OF FUEL PRODUCTION ON THE BASIS OF SOLID COMBUSTIBLE MINERAL RESOURCES (report)

A.F. Ryzhkov, V.L. Shulman, V.E. Silin, T.F. Bogatova, R.Sh. Zagrutdinov *(Ekaterinburg).* MODULAR REACTORS OF THERMOCHEMICAL CONVERSION AND NEW POSSIBILITIES OF HYBRID IGCC (report)

A.A. Khalatov *(Kiev).* INVESTIGATIONS IN THE FIELD OF NOVEL COOLING SYSTEMS OF GAS TURBINE BLADES CARRIED OUT AT THE INSTITUTE OF ENGINEERING THERMOPHYSICS OF THE NATIONAL ACADEMY OF SCIENCES OF UKRAINE (report)

S.I. Gordeev, A.F. Ryzhkov, T.F. Bogatova *(Ekaterinburg).* COMPUTATIONAL INVESTIGATION OF THE INFLUENCE OF SOLID-FUEL CCPP OPTIMIZATION PARAMETERS (communication)

4.00 p.m. – 5.00 p.m.

Posters[9]

1. ***G.V. Dashkov, G.L. Malenko, A.D. Solodukhin, N.N. Stolovich, V.D. Tyutyuma*** *(Minsk).* LABORATORY MODELING OF THE INFLUENCE OF THERMAL AND HYDRODYNAMIC PROCESSES ON THE EFFICIENCY OF OPERATION OF A COMBINED-DRAFT EVAPORATIVE COOLING TOWER

2. ***V.N Kovalnogov, A.S. Rtishcheva, Yu.E. Chamchiyan*** *(Ulyanovsk).* MODELING AND INVESTIGATION OF THE INFLUENCE OF PVC WINDOWS ON ENERGY SAVING AND HEAT BALANCE OF A BUILDING

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[9]**Number of the paper corresponds to the number of the poster board.**

3. ***V.K. Lyubov*** *(Arkhangelsk),* ***O.D. Myuller*** *(Severodvinsk),* ***A.N. Popov*** *(Arkhangelsk).* MODERNIZATION OF HEATING BOILER PLANTS

4. ***A.I. Malinovskii, O.S. Rabinovich*** *(Minsk).* EXPERIMENTAL DETERMINATION AND NUMERICAL SIMULATION OF THE ELECTRICAL CODUCTIVITY OF A BUBBLING BED

5. ***A.S. Snegirjovs, P.J. Shipkovs, G.P. Kashkarova, L.S. Migla*** *(Riga).* HEAT LOSSES IN SOLAR THERMAL SYSTEMS

6. ***R.M. Gilmanov, É.V. Shamsutdinov*** *(Kazan).* INVESTIGATION OF HEAT TRANSFER AND HYDRODYNAMICS IN THE COAL—WATER SLURRY STORAGE TANK AT DIFFERENT HEIGHTS OF FLOW NOZZLE

7. ***A.I. Fedotov, E.V. Shamsutdinov*** *(Kazan).* EXPERIMENTAL INVESTIGATION OF PRESSURE LOSS IN HYDROTRANSPORT OF COAL—WATER SLURRY

8. ***E.V. Shamsutdinov*** *(Kazan).* HYDRODYNAMICS OF FLOW UNDER CONDITIONS OF VISCOUS FUEL JET DISTRIBUTION IN A MODEL RESERVOIR

9. ***S.V. Vasilevich*** *(Minsk).* USE OF SOLAR ENERGY FOR WOOD BIOMASS GASIFICATION IN A FLUIDIZED BED

5.00 p.m. – 6.30 p.m.

N.M. Fialko, V.G. Prokopov, R.A. Navrodskaya, Yu.V. Sherenkovskii, N.O. Meranova, N.V. Gnedoi *(Kiev).* SECONDARY ENERGY RESOURCES IN THE ENERGY SECTOR OF UKRAINE (report)

O.N. Kabankov, L.A. Sukomel, V.V. Yagov *(Moscow).* A CHANNEL TO MODEL A FLOW AND HEAT TRANSFER OF SINGLE- AND TWO-PHASE MEDIA IN BEDS OF SPHERES (report)

A.S. Askarova, S.A. Bolegenova, V.Yu. Maksimov, A. Bekmukhamet *(Almaty).* INVESTIGATION OF HEAT AND MASS TRANSFER PROCESSES IN BURNING OF PULVERIZED COAL FUEL IN THE COMBUSTION CHAMBER OF A BKZ-160 BOILER USING THE METHODS OF THREE-DIMENSIONAL SIMULATION AND THE «OVERFIRE AIR» TECHNOLOGY (communication)

A.B. Sukhotskii, V.B. Kuntysh *(Minsk),* ***A.S. Minnigaleev*** *(Oktyabrskii, Bashkortostan).* A PROGRAM OF SELECTING STANDARDIZED HEAT EXCHANGERS FOR ENTERPRISES OF THE FUEL AND ENERGY COMPLEX (communication)

N.G. Khutskaya, G.I. Palchonok, É.M. Kosmacheva, I.V. Yantsevich *(Minsk).* THERMOCHEMICAL CONVERSION OF A WET BIOMASS IN A CHP PLANT (communication)

E.E. Chaikovskaya *(Odessa).* ENERGY SAIVING TECHNOLOGIES BASED ON INTELLECTUAL CONTROL OF HEAT AND MASS TRANSFER PROCESSES (communication)

V.V. Lozovetskii, F.V. Pelevin, V.V. Lebedev, I.V. Statkevich *(Moscow).* IMPROVEMENT OF THE POWER EFFICIENCY OF THE USE OF A POLYGON GAS AS AN ALTERNATIVE RENEWABLE ENERGY SOURCE (communication)

Tuesday, September 11
2.30 p.m. – 6.30 p.m.

Yu.E. Karyakin, A.A. Pletnev, E.D. Fedorovich *(St.Petersburg).* MODELING OF HEAT AND MASS TRANSFER PROCESSES IN SYSTEMS OF EMERGENCY COOLING OF NUCLEAR POWER PLANT POOLS WITH A SPENT NUCLEAR FUEL (report)

S.S. Bazyuk, N.Ya. Parshin, E.B. Popov *(Podolsk),* ***Yu.A. Kuzma-Kichta*** *(Moscow).* DEVELOPMENT OF THE ENGINEERING METHOD OF CALCULATING THE REFLOODING CHARACTERISTICS IN SIMULATION OF PROJECTED ACCIDENTS (communication)

É.A. Boltenko *(Elektrogorsk).* INCREASE OF THE EFFICIENCY OF REACTOR FUEL ASSEMBLIES BY THE METHODS OF HEAT REMOVAL INTENSIFICATION (communication)

K.V. Kartashov, G.P. Bogoslovskaya *(Obninsk).* THERMOHYDRAULIC CALCULATIONS OF WWER-SKD REACTOR CORE FOR DIFFERENT COOLANT FLOW MODELS UNDER DESIGN CONDITIONS (communication)

I.I. Sviridenko, V.A. Timofeev *(Sevastopol).* ANALYTICAL MODELING OF PASSIVE REMOVAL OF RESIDUAL HEAT AT WWER-1000 WITH THE USE OF THERMAL SIPHON-BASED HEAT EXCHANGERS (communication)

Yu.N. Tokarev, N.I. Drobyshevskii, O.V. Tarasov, A.S. Filippov *(Moscow).* NUMERICAL INVESTIGATION OF HEAT AND MASS TRANSFER IN A THREE-COMPONENT MIXTURE IN HYDROGEN SAFETY ASSESMENT PROBLEMS AT BDB ACCIDENTS IN NPPs (communication)

R.R. Khafizov, E.F. Ivanov, V.V. Privezentsev, A.P. Sorokin *(Obninsk).* PROBLEMS OF EXPERIMENTAL SIMULATION OF THE PROCESS OF SODIUM BOILING IN A MODEL OF SUBASSEMBLY MOCKUP UNDER EMERGENCY CONDITIONS (communication)

Yu.E. Shvetsov *(Obninsk).* NUMERICAL SIMULATION OF THERMOHYDRAULIC PROCESSES IN THE UPPER CHAMBER OF A FAST REACTOR (communication)

I.A. Belyaev, M.A. Kadurina, Ya.I. Listratov, N.G. Razuvanov, V.G. Sviridov *(Moscow).* EXPERIMENTAL INVESTIGATION OF LIQUID METAL HEAT TRANSFER IN AN INCLINED CHANNEL AS APPLIED TO A TOKAMAK REACTOR (communication)

I.N. Vasilchenko *(Podolsk),* ***S.E. Volkov*** *(Moscow),* ***V.V. Vyalitsyn*** *(Podolsk),* ***D.V. Malchevskii, R.S. Pometko, Yu.F. Selivanov, A.M. Smirnov*** *(Obninsk).* EXPERIMENTAL AND COMPUTATIONAL INVESTIGATIONS IN SUPPORT OF NPP-2006 FUEL ASSEMBLY DESIGN WITH IMPROVED PARAMETERS (communication)

O.V. Semenovich *(Minsk).* MODELING AND ANALYSIS OF THERMOHYDRODYNAMIC PROCESSES IN FUEL ROD ASSEMBLIES (communication)

O.V. Semenovich, D.L. Tretinnikov *(Minsk).* MATHEMATICAL MODEL AND COMPUTER CODE FOR CALCULATING THE THERMOHYDRAULIC PARAMETERS OF THE CORES OF LIGHT WATER REACTORS (communication)

E.D. Fedorovich, Yu.A. Karyakin *(St.Petersburg),* ***T.Yu. Pronkevich, A.G. Trifonov*** *(Minsk).* ANALYSIS OF HEAT AND MASS TRANSFER PROCESSES OCCURING DURING STORAGE OF SPENT NUCLEAR FUEL (communication)

M.Yu. Egorov, M.A. Gotovskii, E.D. Fedorovich *(St.Petersburg).* POSSIBILITIES OF INCREASING THE EFFICIENCY OF THERMOHYDRAULIC PROCESSES IN SYSTEMS OF INTERMEDIATE MOISTURE SEPARATION AND REHEAT IN NPP WET STEAM TURBINES (communication)

Wednesday, September 12
9.00 a.m. – 1.00 p.m.

G.A. Ryabov *(Moscow).* TECHNOLOGY OF A CIRCULATING FLUIDIZED BED: THE USE IN POWER PLANTS AND NEW APPLICATIONS (report)

V.A. Borodulya (Minsk), S.M. Dobkin *(Brest).* TECHNOLOGY OF COMBUSTION IN A FLUIDIZED BED: EFFECTIVE METHOD OF USING LOCAL FUELS FOR DECENTRALIZED ENERGY SUPPLY (report)

Yu.M. Matsevityi, S.V. Alyokhina, V.N. Goloshchapov, A.O. Kostikov *(Kharkov).* DIRECT AND INVERSE CONJUGATE HEAT TRANSFER PROBLEMS AND THEIR ROLE IN INVESTIGATION OF THERMAL PROCESSES IN POWER ENGINEERING EQUIPMENT (report)

E.A. Pitsukha *(Belozersk),* ***Yu.S. Teplitskii, V.A. Borodulya*** *(Minsk).* CHARACTERISTIC FEATURE OF BURNING A SOLID BIOFUEL IN A VORTEX-BED FURNACE (report)

V.A. Borodulya, O.S. Rabinovich, L.M. Vinogradov, A.Zh. Greben'kov, V.E. Ivanov, A.M. Mikhailov *(Minsk).* SYNTHESIS OF HIGHLY TECHNOLOGICAL MATERIALS IN A FLUIDIZED BED: NEW APPROACHES AND PROSPECTS (report)

V.A. Borodulya, É.K. Buchilko, L.M. Vinogradov *(Minsk).* SOME CHARACTERISTIC FEATURES OF BURNING WATER—COAL FUELS IN A FLUIDIZED BED (communication)

S.M. Fedorov, V.V. Matsnev *(Velikii Novgorod).* APPLICATION OF FLUIDIZED-BED FURNACES FOR BURNING A NATURAL GAS IN LOW-POWER INDUSTRIAL BOILERS (communication)

A.V. Vlasov, V.M. Vinograd, V.F. Davidenko, O.G. Martynenko, N.I. Rusakevich *(Minsk),* ***Ngo Tuankiet, Nguyen Thuy Nga*** *(China).* INFLUENCE OF THERMAL AND HYDRODYNAMIC REGIMES ON THE CHARACTERISTICS OF WATER-BOILER FUEL (communication)

V. V. Sorokin *(Minsk).* CALCULATION OF VORTEX ATOMIZERS (communication)

Wednesday, September 12
4.00 p.m. – 5.00 p.m.

Posters[10]

1. ***V.V. Lozovetskii, F.V. Pelevin, A.V. Ponomarev*** *(Moscow).* COMPUTATIONAL-EXPERIMENTAL INVSTIGATIONS OF A FLOW OF A FILL OF SPHERICAL FUEL ELEMENTS AS A QUASI-NEUTONIAN FLUID IN AN AXISYMMETRIC ACTIVE ZONE

2. ***V.V. Sergeev, V.S. Fedotovskii, S.I. Shcherbakov*** *(Obninsk).* INFLUENCE OF VORTICAL HEAT TRANSFER LATTICES-INTENSIFIERS ON THE VAPOR PHASE BEHAVIOR IN THE SPACE BETWEEN THE FUEL RODS OF FUEL ASSEMBLIES

3. ***E.A. Pitsukha*** *(Belozersk),* ***Yu.S. Teplitskii, D.G. Belonovich*** *(Minsk).* COMBINED HEAT TRANSFER IN THE AIR HEATER CHANNEL WITH A GRANULAR BED

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[10]Number of the paper corresponds to the number of the poster board.

4. ***Yu.A. Vinogradov, A.G. Zditovets, M.M. Strongin*** *(Moscow).* EXPERIMENTAL INVESTIGATION OF THE MACHINE-FREE METHOD OF ENERGY SEPARATION IN A HIGH-SPEED GAS FLOW

5. ***Yu.M. Brodov, N.V. Zhelonkin, A.Yu. Ryabchikov, K.É. Aronson*** *(Ekaterinburg).* INVESTIGATION OF HEAT TRANSFER IN PROFILED TUBE BUNDLES OF STEAM TURBINE OIL COOLERS

6. ***R. Navakas, A. Džiugys*** *(Kaunas, Lithuania),* ***B. Peters*** *(Luxembourg),* ***N. Striūgas*** *(Kaunas, Lithuania).* IDENITIFICATION OF HOT SPOTS IN A HEATED GRANULAR MEDIUM BY THE COMMUNITY-DETECTION METHOD

7. ***A.A. Frolov, A.A. Sedov*** *(Moscow).* INVESTIGATION OF THE CHARACTERISTIC FEATURES OF THE THERMAL HYDRAULICS OF MINOR ACTINIDES

8. ***M.A. Gotovskii, P.V. Egorov, Yu.G. Sukhorukov*** *(St.Petersburg).* ANALYSIS OF HEAT TRANSFER IN SATURATED STEAM CONDENSATION ON THE SURFACE OF SUBCOOLED WATER JETS IN APPLICATION TO DIRECT CONTACT HEAT EXCHANGERS FOR NUCLEAR POWER PLANTS

9. ***Z.V. Lovkis, A.A. Shepshelev, S.A. Arnaut, E.V. Korobko, S.V. Vilanskaya, N.A. Zhuravskii*** *(Minsk).* TEMPERATURE DEPENDENCE OF THE RHEOLOGOCAL PROPERTIES OF GRAIN MIXES UNDER THE CONDITIONS OF CONTINIOUS SHEAR DEFORMATION

10. ***V.V. Alekseev, E.V. Varseev, E.A. Orlova*** *(Obninsk).* COMPUTATIONAL MODEL OF THE PROCESS OF TWO-LAYER OXIDE COATING FORMATION ON THE SURFACE OF STEEL IN A LEAD COOLANT

11. ***V.A. Borodulya, V.L. Malevich*** *(Minsk).* METHOD OF CALCULATING THE PARAMETERS OF HEAT AND MASS TRANSFER IN DEEP COOLING OF A STEAM—GAS MIXTURE

5.00 p.m. – 6.30 p.m.

A.I. Petruchik, S.P. Fisenko *(Minsk).* SIMULATION OF EVAPORATIVE COOLING OF WATER DROPLETS IN A VACUUM COOLING TOWER (report)

É.P. Volchkov, V.V. Lukashov, R.Kh. Abdrakhmanov *(Novosibirsk).* MEASUREMENT OF THE DYNAMIC CHARACTERISTICS OF FLOW IN A VORTEX CHAMBER WITH A CENTRIFUGAL FLUIDIZED BED OF SOLID PARTICLES (report)

A.M. Gorbunova, B.G. Sapozhnikov *(Ekaterinburg).* EXTERNAL MASS TRANSFER IN A VIBROBUBBLING BED OF INERT MATERIAL AND ITS COMPARISION WITH HEAT TRANSFER (report)

A.A. Brin, A.I. Petruchik *(Minsk).* NEW WAYS OF ACHIEVING PROJECT PARAMETERS OF WATER COOLING IN WATER TURN-OVER CYCLES WITH COOLING TOWERS (communication)

I.A. Bokun, V.N. Nagornov *(Minsk).* EXTERNAL HEAT TRANSFER IN A PULSATING BED OF LARGE PARTICLES (communication)

A.V. Akulich, V.A. Borodulya, L.M. Vinogradov, O.S. Rabinovich *(Minsk).* SOME PREREQUISITES FOR THE DEVELOPMENT OF SOLAR POWER ENGINEERING ON THE BASIS OF POLYCRYSTALLINE SILICON IN THE CONDITIONS OF THE REPUBLIC OF BELARUS (communication)

Section 5 HEAT AND MASS TRANSFER IN REACTING SYSTEMS

(Conference Hall of the Institute of Physical and Organic Chemistry of the National Academy of Sciences of Belarus, 13 Surganov Str.)

Section Bureau:
K.V. Dobrego (*Minsk)* – Co-Chairman
Yu.V. Polezhaev (*Moscow*) – Co-Chairman
O.S. Rabinovich *(Minsk)* – Co-Chairman
I.A. Koznacheev *(Minsk)* – Scientific Secretary

Monday, September 10
2.30 p.m. – 6.30 p.m.

Yu.V. Polezhaev *(Moscow).* CHART OF THE REGIMES OF COMBUSTION AND SIMILARITY NUMBERS IN A TURBULENT JET-FLARE FLOW (report)

V.I. Baikov, N.V. Kolyago, T.V. Sidorovich, N.G. Vaskevich *(Minsk).* INFLUENCE OF THE COMPOSITION OF AN AIR–FUEL MIXTURE ON THE PROCESS OF FORMATION OF NITROGEN OXIDES IN DIESEL INTERNAL COMBUSTION ENGINES (report)

M.S. Assad, O.G. Penyazkov *(Minsk).* INFLUENCE OF HYDROGEN ADDITIONS ON THE THERMODYNAMIC CHARACTERISTICS IN THE CYLINDER OF AN INTERNAL COMBUSTION ENGINE (report)

B.I. Basok, V.V. Gotsulenko *(Kiev),* ***V.N. Gotsulenko*** *(Zheltye Vody, Ukraine).* CONTROL OF VIBRATION COMBUSTION AND THERMOACOUSTIC OSCILLATIONS IN POTENTIALLY UNSTABLE ELEMENTS OF THERMAL AND POWER ENGINEERING EQUIPMENT (report)

É.P. Volchkov, V.V. Lukashov, V.V. Terekhov *(Novosibirsk).* FLAME BLOWOUT CONDITIONS IN THE BOUNDARY LAYER WITH INJECTION AND COMBUSTION OF HYDROGEN (report)

A.A. Vasil'ev, V.A. Vasiliev, A.V. Pinaev, A.V. Trotsyuk, P.A. Fomin *(Novosibirsk).* GAS-DYNAMICAL PARAMETERS OF COMBUSTION AND DETONATION OF METHANE–AIR–COAL DUST MIXTURES (report)

S.B. Zlobin, E.S. Prokhorov, V.Yu. Ulyanitskii *(Novosibirsk).* ACCELERATION AND HEATING OF PARTICLES IN A SHAPED BARREL OF DETONATION SPRAYING SET (report)

D.O. Morozov, A.S. Smetannikov, K.L. Stepanov, B.V. Faleichik *(Minsk).* COMPUTER SIMULATION OF A 1D-DETONATION WAVE (communication)

E.A. Baranyshin, O.G. Penyazkov, S.P. Fisenko *(Minsk).* RECOVERY OF THE PARAMETERS OF PRIMERY SOOT NANOPARTICLES ON THE BASIS OF PYROMETRIC, GAS-DYNAMICAL, AND ELECTRON-MICROSCOPIC MEASUREMENTS (communication)

E.S. Losik, V.V. Leshchevich, K.L. Sevruk, O.G. Penyazkov *(Minsk).* THE CHOICE OF THE MECHANISM OF CHEMICAL KINETICS FOR DESCRIBING THE AUTOIGNITION OF METHANE–AIR MIXTURE AT A TEMPERATURE FROM 900 TO 1740 (communication)

M.V. Doroshko, O.G. Penyazkov *(Minsk).* DYNAMICS OF ACETYLENE AND PROPANE PYROLYSIS AT A HIGH TEMPERATURE BEHIND THE FRONT OF A REFLECTED SHOCK WAVE (communication)

V.A. Gorelskii, V.F. Tolkachev, I.E. Khorev *(Tomsk).* INVESTIGATION OF THE PENETRATION OF A CUMULATIVE JET INTO THE MULTILAYER BARRIER WITH ACCOUNT FOR TEMPERATURE EFFECTS (communication)

B.S. Seplyarskii, A.G. Tarasov *(Chernogolovka).* LAWS GOVERNING COMBUSTION OF THE POWDER MIXTURE Ti + 0.5C IN A COCURRENT NITROGEN FLOW (communication)

Tuesday, September 11
2.30 p.m. – 6.30 p.m.

A.A. Khalatov, S.G. Kobzar, G.V. Kovalenko, O.V. Shikhabutinova *(Kiev).* COMPUTER SIMULATION OF COMBUSTION OF HEAVY LIQUID HYDROCARBONS IN A WICK BURNER (report)

Yu.M. Dmitrenko, R.A. Klyovan *(Minsk).* METHANE-TO-HYDROGEN CONVERSION IN A REVERSIBLE FLOW FILTRATION COMBUSTION REACTOR (communication)

K.V. Dobrego, I.A. Koznacheev *(Minsk).* NUMERICAL STUDY OF THE PROCESS OF WATER PURIFICATION OF ORGANIC IMPURITIES BY THE METHOD OF FILTRATION COMBUSTION (report)

V.M. Kislov, S.V. Glazov, E.A. Salganskii, A.F. Zholudev, M.V. Salganskaya *(Chernogolovka).* FILTRATION COMBUSTION OF CARBON SYSTEMS AT DIFFERENT CONTENT OF OXYGEN IN A GASEOUS OXYDIZER (report)

Yu.Ya. Pechenegov, O.Yu. Kosova *(Engels).* THERMOKINETICS AND HEAT TRANSFER IN OXIDATIVE PYROLYSIS OF OIL SHALE DUST IN DIRECT-FLOW TUBULAR REACTORS (report)

E.A. Salganskii, S.V. Glazov, V.M. Kislov, M.V. Salganskaya, A.F. Zholudev *(Chernogolovka).* TRANSFORMATION OF THE THERMAL STRUCTURE OF FILTRATION COMBUSTION WAVE (communication)

N.N. Gnezdilov, I.M. Kozlov, K.V. Dobrego *(Minsk).* THE INFLUENCE OF STEAM CONDENSATION ON PEAT LAYER COMBUSTION (communication)

V.A. Levin, N.A. Lutsenko *(Vladivostok).* MODELING OF GAS FLOW IN POROUS MEDIA WITH ZONES OF HETEROGENEOUS COMBUSTION (report)

S.P. Kozlov, V.V. Kuznetsov, O.V. Vitovskii *(Novosibirsk).* HEAT AND MASS TRANSFER AND KINETIC PROCESSES IN STEAM CONVERSION OF METHANE IN A MICROCHANNEL REACTOR (report)

A.M. Grishin, A.S. Yakimov *(Tomsk).* MATHEMATICAL MODELING OF THE INITIATION AND DISTRIBUTION OF PEAT FIRES (report)

E.L. Loboda, A.S. Yakimov *(Tomsk).* MODELING OF THE PROCESS OF PEAT IGNITION (communication)

O.G. Martynenko, V.V. Kulebyakin, K.V. Dobrego, I.A. Koznacheev *(Minsk).* NUMERICAL AND EXPERIMENTAL MODELING OF THERMAL DESORPTION OF PETROLEUM PRODUCTS FROM CONTAMINATED SOILS (report)

Wednesday, September 12
9.00 a.m. – 1.00 p.m.

N.V. Baranovskii, G.V. Kuznetsov *(Tomsk).* MATHEMATICAL MODELING OF FOREST COMBUSTIBLE LAYER IGNITION BY A FOCUSED SUNLIGHT (communication)

N.V. Baranovskii, G.V. Kuznetsov *(Tomsk).* MATHEMATICAL MODELING OF CONIFEROUS TREE IGNITION BY THE GROUND LIGHTNING DISCHARGE (communication)

V.V. Bogdanova, O.I. Kobets, A.A. Lyudko *(Minsk).* ON THE INFLUENCE OF THE PROCESSES PROCEEDING IN THE PREFLAME ZONE OF CONDENSED PHASE ON WOOD AND PEAT COMBUSTION INHIBITION (communication)

A.S. Zhukov, V.A. Arkhipov, S.S. Bondarchuk, B.V. Borisov *(Tomsk).* ANALYSIS OF THE PERFORMANCE OF A BIPROPELLANT GAS GENERATOR IN THE FRAMEWORK OF IDEAL MIXING REACTOR THEORY (communication)

Vlad.V. Salomatov, Vas.V. Salomatov *(Novosibirsk).* PHYSICAL AND MATHEMATICAL MODELING OF THE PROCESSES OF TRANSFER AND COMBUSTION IN A FLUIDIZED BED FURNACE (report)

Yu.V. Polezhaev, V.D. Geshele, I.P. Raskatov *(Moscow),* ***V.N. Soloviev, I.G. Pleshchankov, L.A. Bida, A.S. Levchuk, I.G. Fokina*** *(Minsk).* AUTOOSCILLLATIONS DURING COMBUSTION OF SOLID FUEL (communication)

D.S. Litun, D.A. Mel'nikov, G.A. Ryabov *(Moscow).* DETERMINING FRACTIONS OF HEAT RELEASE AND TEMPERATURE IN A BUBBLING BED IN COMBUSTION OF BIOMASS (communication)

E.L. Loboda, V.V. Reino *(Tomsk).* INFLUENCE OF FLAMES IN BURNING OF VEGETATIVE COMBUSTIBLE MATERIALS ON REGISTRATION OF HIGH-TEMPERATURE OBJECTS IN THE IR RANGE (communication)

S.A. Shevyryov, S.S. Azikhanov *(Kemerovo),* ***M.V. Alekseev, A.L. Sorokin*** *(Novosibirsk).* GASIFICATION OF COAL INDUSTRY WASTES (communication)

A.D. Makhaev, N.V. Valtsev, A.F. Ryzhkov, N.A. Abaimov *(Ekaterinburg).* PHYSICAL AND MATHEMATICAL MODELING OF THERMOCHEMICAL CONVERSION DURING GASIFICATION (report)

R.Sh. Enaleev, V.A. Kachalkin, E.Sh. Telyakov, Yu.S. Chistov *(Kazan).* PREDICTION OF SANITARY LOSSES CAUSED BY THERMAL RADIATION IN EMERGENCY SITUATIONS (communication)

R.Sh. Enaleev, E.Sh. Telyakov, Yu.S. Chistov, A.F. Gabidullin *(Kazan).* FIRE DANGER OF IGNITION OF COMBUSTIBLE MATERIALS (communication)

V.L. Kolpashchikov, S.Yu. Yanovskii *(Minsk).* MODELING OF THERMOMECHANICAL PROCESSES OF HEAT AND MASS TRANSFER IN THE CONTACT ZONE OF COLLISION FOR INVESTIGATION OF THE FRICTIONAL SPARKS OF AN IMPACT (communication)

A.P. Lushchik, V.L. Kolpashchikov, S.Yu. Yanovskii *(Minsk).* PROBABILISTIC APPROACH TO THE DETERMINATION OF THE AUTOIGNITION TEMPERATURE OF INFLAMMABLE LIQUIDS (communication)

S.V. Puzach *(Moscow).* ON THE SIMILARITY BETWEEN HEAT AND MASS TRANSFER PROCESSES DURING ROOM FIRE (communication)

S.V. Puzach, V.G. Puzach, E.S. Abakumov *(Moscow).* TOWARD CALCULATION OF THE FLAME ZONE HEIGHT IN DIFFUSION COMBUSTION OF A LIQUID (communication)

A.G. Tarasov, B.S. Seplyarskii, I.A. Tarasova, R.A. Kochetkov *(Chernogolovka).* LAWS GOVERNING COMBUSTION OF A GRANULATED MIXTURE 2Ti + C IN A COCURRENT FLOW AN INERT GAS (communication)

A.G. Tarasov, B.S. Seplyarskii, I.A.Tarasova, R.A. Kochetkov *(Chernogolovka).* EFFECT OF GRANULATION ON THE MECHANISM OF HEAT TRANSFER IN COMBUSTION OF A MIXTURE 2Ti + C IN A COCURRENT GAS FLOW (communication)

2.30 p.m. – 6.30 p.m.

S.G. Orlovskaya, V.V. Kalinchak, O.N. Zui, A.V. Turchak *(Odessa).* INFLUENCE OF INTERNAL REACTION AND MASS CONCENTRATION ON THE CHARACTERISTICS OF IGNITION AND COMBUSTION OF A GAS SUSPENSION OF CARBON PARTICLES (report)

O.V. Sharypov, I.S. Anufriev *(Novosibirsk).* ON THE EFFECT OF HEAT TRANSFER ON SELF-OSCILLATIONS IN A REACTING GAS SUSPENSION (report)

O.G. Penyazkov, V.N. Mironov, D.G. Ignatenko, B.N. Antonyuk, K.N. Kasparov, L.I. Belozerova *(Minsk).* DYNAMICS AND TEMPERATURE OF COMBUSTION OF IRON DUST IN AN OXYGEN MEDIUM (report)

B.F. Boyarshinov, S.Yu. Fedorov *(Novosibirsk).* INVESTIGATION OF LOCAL MASS TRANSFER IN A BOUNDARY LAYER WITH ETHANOL COMBUSTION BEHIND A BARRIER: INFLUENCE OF EXTERNAL TURBULENCE (communication)

A.S. Askarova, S.A. Bolegenova, V.Yu. Maksimov, A. Bekmukhamet *(Almaty).* INVESTIGATION OF THE PROCESSES OF HEAT AND MASS TRANSFER IN BURNING OF PULVERIZED COAL FUEL IN THE COMBUSTION CHAMBER OF A BKZ-160 BOILER USING THE METHODS OF THREE-DIMENSIONAL SIMULATION AND THE «OVERFIRE AIR» TECHNOLOGY (communication)

T.N. Genarova, I.G. Kukharchuk, O.G. Penyazkov *(Minsk).* INFLUENCE OF HYDRODYNAMIC CAVITATION ON THE CHEMICAL COMPOSITION OF DIESEL FUEL (communication)

D.S. Darakov, A.N. Zolotko, A.K. Kopeika, P.O. Pavlyuk *(Odessa).* COMBUSTION OF RAPESEED METHYL ETHER DROPLETS IN AIR (communication)

A.N. Makarov *(Tver).* REGULARITIES ACCOMPANYING THE CONVERSION OF FUEL ENERGY AND ELECTRIC ENERGY INTO THE THERMAL ONE DURING FLAME FUEL COMBUSTION AND ELECTRIC ARC BURNING IN METAL VAPORS (communication)

M.A. Fatykhov, A.I. Khudaiberdina, Yu.Yu. Bikbova *(Ufa).* HEATING OF OIL AND GAS SYSTEMS WITH CHEMICAL REACTIONS IN AN ELECTROMAGNETIC FIELD (communication)

M.A. Fatykhov, F.A. Nagaev *(Ufa).* HEAT SOURCES IN TWO-LAYER MEDIA WITH OBLIQUE INCIDENCE OF ELECTROMAGNETIC WAVES (communication)

M.A. Fatykhov, V.A. Abdullina *(Ufa).* HEATING AND DESTRUCTION OF DEPOSITS IN OIL PIPELINES BY MOVING SOURCE OF ELECTROMAGNETIC RADIATION (communication)

I.A. Zyryanov, S.M. Reshetnikov, L.T. Grebenshchikov *(Kirov).* CHARACTERISTIC FEATURES OF PHASE TRANSITIONS IN AN ELECTROSTATIC FIELD IN COMBUSTION OF FLUIDS (communication)

B.B. Khina *(Minsk).* ON THE THEORY OF MECHANICALLY ACTIVATED SHS (report)

A.A. Koptelov, Yu.M. Milekhin, Yu.N. Baranets *(Dzerzhinskii, Moscow Region).* PROBLEMS OF INVESTIGATION OF THE KINETICS OF THERMAL DECOMPOSITION OF POLYMERS: ROLE OF HEAT AND MASS TRANSFER (report)

B.S. Seplyarskii, A.G. Tarasov *(Chernogolovka).* LAWS GOVERNING COMBUSTION OF THE POWDER MIXTURE Ti + TiC IN A COCURRENT NITROGEN FLOW (communication)

Section 6 HEAT TRANSFER IN MICRO-, NANOSIZED, AND BIOLOGICAL SYSTEMS

(Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezavisimost Ave.)

Section Bureau:
V.V. Kuznetsov (*Novosibirsk*) – Co-Chairman
S.P. Fisenko (*Minsk*) – Co-Chairman
S.A. Chizhik (*Minsk*) – Co-Chairman
E.S. Drozd (*Minsk*) – Scientific Secretary

Monday, September 10
2.30 p.m. – 6.30 p.m.

A.R. Lepeshkin, N.G. Bychkov *(Moscow).* INVESTIGATION OF THERMAL PROTECTION OF MICRONANODIMENSIONAL CERAMIC COATINGS OF GTE BLADES WITH ACCOUNT FOR DIFFERENT TECHNOLOGIES OF DEPOSITION (report)

V.I. Saverchenko, S.P. Fisenko, Yu.A. Khodyko *(Minsk).* EVAPORATION OF BINARY PICOLITER DROPLETS ON A METALLIC SUBSTRATE (report)

S.A. Afanasieva, N.N. Belov, Yu.A. Biryukov, V.V. Burkin, A.N. Ishchenko, A.N. Tabachenko, M.V. Khabibullin, N.T. Yugov *(Tomsk).* DEVELOPMENT AND INVESTIGATION OF ULTRAFINE-GRAINED TUNGSTEN-BASED MATERIALS AT A HIGH-VELOCITY IMPACT (communication)

G.K. Ivanitskii *(Kiev).* NUMERICAL INVESTIGATION OF DYNAMIC AND THERMAL NANOEFFECTS IN AN OSCILLATING CAVITATING CLUSTER (communication)

M.V. Kiyashko, P.S. Grinchuk *(Minsk).* DETERMINATION OF THE OPTIMUM DEPOSITION TIME OF CARBON NANOMATERIALS ON A CATALYTIC SURFACE (communication)

M.A. Brich, K.V. Dobrego, L.I. Krasovskaya *(Minsk).* EQUATION OF STATE FOR SYSTEMS COMPOSED OF CARBON NANOSTRUCTURES AND ITS APPLICATION TO MODELING THERMAL ACTION ON CARBON COMPOSITE MATERIALS (communication)

E.A. Baranyshin, O.G. Penyazkov, S.P. Fisenko *(Minsk).* RESTORATION OF THE PARAMETERS OF PRIMARY SOOT NANOPARTICLES ON THE BASIS OF PYROMETRIC, GAS-DYNAMICAL, AND ELECTRONIC MICROSCOPIC MEASUREMENTS (communication)

Break

B.É. Kashevskii, Yu.P. Istomin, S.B. Kashevskii, I.V. Prokhorov, T.I. Terpinskaya, V.S. Ulashchik *(Minsk).* ENERGY ABSORPTION, TEMPERATURE REGIME AND EFFICIENCY OF LOCAL MAGNETIC HYPERTHERMIA OF EXPERIMENTAL MALIGNANT TUMORS (report)

O.G. Burdo, V.N. Bandura, T.L. Makievskaya *(Odessa).* HEAT AND MASS TRANSFER IN NANOSCALE ELEMENTS OF FOOD RAW MATERIAL (communication)

S.B. Kashevskii, I.V. Prokhorov *(Minsk).* MAGNETODYNAMICS AND ENERGY DISSIPATION IN DISPERSIONS OF HIGHLY COERCIVE PARTICLES FOR MAGNETIC HYPERTHERMIA IN COMPLEX LIQUIDS (communication)

S.A. Gubarev, S.V. Vilanskaya *(Minsk),* ***Yu.P. Istomin, V.N. Chalov, D.A. Tserkovskii*** *(Lesnoy, Belarus).* RHEOLOGICAL PROPERTIES OF BLOOD AND PLASMA OF LABORATORY ANIMALS (TUMOR CARRIERS) AFTER SONO-PHOTODYNAMIC EFFECT AT 37°C (communication)

S.A. Filatov, M.N. Dolgikh, G.S. Kuchinskii, E.V. Batyrev *(Minsk).* EXPERIMENTAL STUDIES OF HEAT AND MASS TRANSFER PROCESSES IN INTERACTION OF RADIATION WITH NANOSCALE MARKERS IN BIOLOGICAL SYSTEMS (communication)

M.L. Levin, A.A. Makhanek, V.L. Dragun *(Minsk).* HEAT TREANSFER IN TOTAL GAS CRYOTHERAPY (communication)

E.S. Drozd, M.L. Levin, E.A. Lositskii, S.A. Chizhik, M.E. Mychko *(Minsk).* INFLUENCE OF TOTAL COLD EFFECT ON DEFORMABILITY OF HUMAN RED BLOOD CELLS (communication)

Wednesday, September 12
9.00 a.m. – 1.00 p.m.

V.A. Borodulya, O.S. Rabinovich, A.N. Blinova *(Minsk),* ***V.L. Kuznetsov, D.V. Krasnikov, K.V. Elumeeva*** *(Novosibirsk).* CHARACTERISTIC FEATURES OF THE CATALYTIC SYNTHESIS OF MULTILAYER CARBON NANOTUBES IN A FLUIDIZED BED (report)

V.K. Pustovalov, A.S. Smetannikov *(Minsk).* MODELING OF NANOPARTICLE HEATING UNDER THE ACTION OF OPTICAL RADIATION AND ITS NONLINEAR HEAT EXCHANGE WITH THE AMBIENT MEDIUM (report)

S.P. Fisenko, Yu.A. Khodyko *(Minsk).* THERMOPHORESIS AND BROWNIAN DIFFUSION OF MICRO- AND NANOPARTICLES IN A FLOW REACTOR AT A REDUCED PRESSURE (communication)

S.A. Chizhik, S.O. Abetkovskaya *(Minsk),* ***Z. Rymuza*** *(Warsaw).* PROBE METHODS FOR THERMOMECANICAL ANALYSIS OF THE PROPERTIES OF MATERIALS IN NANOSCALE (communication)

V. V. Levdanskii *(Minsk),* ***I. Smolik, V. Zdimal, P. Moravets*** *(Prague).* CHARACTERISTIC FEATURES OF THE OCCURRENCE OF CHEMICAL REACTIONS IN NANOSCALE PARTICLES (communication)

V.V. Levdanskii *(Minsk),* ***I. Smolik, V. Zdimal, P. Moravets*** *(Prague).* INFLUENCE OF SIZE EFFECTS ON PHASE TRANSITIONS IN SYSTEMS WITH NANOOBJECTS (communication)

E.V. Korobko, Z.A. Novikova, N.A. Zhuravskii *(Minsk).* THERMALLY STABLE ELECTRORHEOLOGICAL FLUIDS BASED ON NANOSIZED PARTICLES OF TITANIUM DIOXIDE (communication)

K.I. Delendik, O.L. Voitik, D.G. Ignatenko *(Minsk).* METAL NANOSTRUCTURED GRID CATALYSTS FOR METHANE CONVERSION (comunication)

A.S. Lobasov *(Krasnoyarsk),* ***A.V. Minakov*** *(Novosibirsk).* NUMERICAL SIMULATION OF FORCED CONVECTION IN MICROCHANNELS (communication)

A.A. Bulavko, A.V. Vlasov, V.M. Vinograd, V.F. Davidenko, O.G. Martynenko, M.I. Rusakevich, A.V. Suvorov *(Minsk).* HYDRODYNAMICS DURING OBTAINING OF FUEL ON THE BASIS OF ULTRADISPERSED SUSPENSIONS OF HYDROCARBON NANOPARTICLES IN WATER (communication)

A.A. Bulavko, V.V. Kulebyakin, O.G. Martynenko, B.M. Khrustalev *(Minsk).* RHEOLOGICAL AND THERMOPHYSICAL PROPERTIES OF ULTRADISPERSED COAL—WATER SUSPENSIONS (communication)

S.A. Filatov, M.N. Dolgikh, G.S. Kuchinskii, E.V. Batyrev *(Minsk).* CHARACTERISTIC FEATURES OF HEAT TRANSFER NANOSTRUCTURED SCATTERING MEDIA (communication)

S.A. Filatov *(Minsk),* ***Alyusef Yousef Mohamed*** *(Saudi Arabia),* ***M.N. Dolgikh, G.S. Kuchinskii, E.V. Batyrev*** *(Minsk).* HEAT AND MASS TRANSFER IN LOW-TEMPERATURE FUEL CELLS AND CARBON NANOMATERIALS-BASED HYDROGEN BATTERIES (communication)

Yu.A. Stankevich, S.P. Fisenko *(Minsk).* NONISOTHERMAL DISPLACEMENT OF VAPOR FROM A CVD REACTOR (communication)

S.A. Filatov, M.N. Dolgikh, G.S. Kuchinskii, E.V. Batyrev, A.A. Gunkevich *(Minsk).* HEAT TRANSFER PROCESSES OF THE CVD SYNTHESIS OF CARBON NANOMATERIAL (communication)

S.A. Filatov, G.S. Kuchinskii, G.S. Akhremkova, T.S. Shamashova *(Minsk).* HEAT AND MASS TRANSFER PROCESSES OF SORPTION ON NANOSCALE CARBON STRUCTURES (communication)

Section 7 GENERAL PROBLEMS OF HEAT AND MASS TRANSFER

(Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezavisimost Ave.)

Section Bureau:
O.M. Alifanov *(Moscow)* – Co-Chairman
A.I. Shnip *(Minsk)* – Co-Chairman
A.A. Brin *(Minsk)* – Scientific Secretary

Tuesday, September 11
2.30 p.m. – 6.30 p.m.

O.M. Alifanov, V.V. Cherepanov, A.V. Zaitseva *(Moscow).* MODELING OF THERMOPHYSICAL AND SPECTRAL PROPERTIES OF GLASSY CARBON FOAM BY THE MONTE CARLO METHOD (report)

A.V. Nenarokomov, D.M. Titov *(Moscow).* STUDY OF HEAT TRANSFER PROCESSES IN THERMOINSULATING MATERIALS (report)

O.M. Alifanov, S.A. Budnik, A.V. Nenarokomov, A.V. Netelev *(Moscow).* IDENTIFICATION OF MATHEMATICAL MODELS OF THERMOKINETICS (communication)

A.I. Shnip *(Minsk).* NECESSARY AND SUFFICIENT CONDITIONS OF THERMODYNAMIC ADMISSIBILITY OF NONLINEAR CONSTITUTIVE EQUATIONS IN THE GENERALIZED THEORY OF THERMODYNAMIC SYSTEMS WITH INTERNAL VARIABLES OF STATE (report)

V.V. Kuznetsov, I.A. Kozulin, O.V. Vitovskii *(Novosibirsk).* METASTABLE STATES AND THEIR DECOMPOSITION AT A HIGH EXTERNAL AND INTERNAL STORED ENERGY DENSITY (report)

A.P. Efimov, N.V. Diligenskii *(Samara).* THE STRUCTURE OF CLASSES OF MATHEMATICAL MODELS IN TECHNOLOGICAL THERMAL PHYSICS (report)

V.M. Popov, O.L. Erin, A.P. Novikov *(Voronezh).* THERMAL REGULATION OF THERMALLY STRESSED TECHNICAL SYSTEMS WITH COMPOSITE ELEMENTS (communication)

A.V. Zabolotskii *(St.Petersburg).* MODELING OF DYNAMIC THERMAL FIELDS IN BODIES OF COMPLEX SHAPE (communication)

I.E. Lobanov *(Moscow).* EXACT ANALYTICAL SOLUTIONS OF THE NONLINEAR NONSTATIONARY INVERSE HEAT CONDUCTION PROBLEM FOR LOW-THERMAL CONDUCTIVITY BODIES OF ONE-DIMENSIONAL GEOMETRY (communication)

V.A. Kudinov, I.V. Kudinov *(Samara).* HYPERBOLIC EQUATIONS IN HEAT CONDUCTION AND HYDRODYNAMICS (communication)

M.Yu. Livshits, M.Yu. Derevyanov, S.A. Kopytin *(Samara).* DISTRIBUTED CONTROL OF TEMPERATURE REGIMES OF THE CONSTRUCTIONAL ELEMENTS OF AUTONOMOUS OBJECTS (communication)

V.A. Pinsker *(Moscow).* CALCULATION OF THE FIELDS OF THERMAL STRESSES IN A MASSIVE BODY HEATED BY A POINT CONTINUOUS HEAT SOURCE (communication)

Wednesday, September 12
10.30 a.m. – 11.30 a.m.

Posters[11]

1. ***I.E. Lobanov*** *(Moscow).* EXACT ANALYTICAL SOLUTION OF THE PROBLEM ON COMPLETE DISTRIBUTION OF TEMPERATURES UP TO THE ENDS OF A REGENERATOR WITH A HIGHLY CONDUCTING PACKING WITH AN ARBITRARILY DISTRIBUTED INITIAL TEMPERATURE (ANZELIUS—NUSSELT PROBLEM)

2. ***I.E. Lobanov*** *(Moscow).* EXACT ANALYTICAL SOLUTION OF THE PROBLEM ON TEMPERATURE DISTRIBUTION IN A CROSSCURRENT RECUPERATOR WITH A PURELY CROSS CURRENT

3. ***D.O. Svetlov, V.V. Isaev, Yu.V. Svetlov*** *(Moscow).* METHOD OF CALCULATION OF THE THERMAL CONDUCTIVITY OF HEAT-INSULATING MATERIALS: EXPERIMENT AND A MACROQUANTUM MODEL OF HEAT TRANSFER

4. ***V.N. Kovalnogov, A.N. Nikiforov*** *(Ulyanovsk).* THERMOPHYSICAL ANALYSIS AS A BASIS FOR RAISING THE EFFICIENCY OF DRILLING HOLES BY MEANS OF ULTRASOUND

5. ***V.A. Kudinov, A.V. Eremin, I.V. Kudinov*** *(Samara).* ANALYTICAL SOLUTION OF THE STEFAN PROBLEM WITH ACCOUNT FOR ABLATION ON THE BASIS OF DETERMINING THE TEMPERATURE PERTRUBATION FRONT

6. ***Tao Xie, Ya-Ling He, Wen-Quan Tao*** *(China).* THEORETICAL AND NUMERICAL STUDY ON THERMAL PROPERTIES OF FIBROUS MATERIALS

7. ***Yu.V. Vidin, D.I. Ivanov, R.V. Kazakov*** *(Krasnoyarsk).* AN APPROXIMATE METHOD TO CALCULATE THE THERMAL CONDUCTIVITY OF A RADIAL EDGE WITH CONSTANT THICKNESS

8. ***A.V. Nikitin, A.Yu. Bachurina*** *(Grodno).* NUMERICAL METHOD OF CALCULATING THE THERMAL CONDUCTIVITY COEFFICIENT OF FILLED POLYMERS

9. ***V.A. Pinsker*** *(Moscow).* CALCULATION OF THE FIELDS OF THE THERMAL STRESSES IN A MASSIVE BODY HEATED BY THE GAUSSIAN HEAT FLUX

10. ***A.A. Andrizhievskii, A.G. Lukashevich, A.P. Voronitskaya*** *(Minsk).* METHOD OF EXPERT ANALYSIS OF THE THERMOTECHNICAL CHARACTERISTICS OF INDUSTRIAL SPECIMENS OF MULTILAYER CONTACT TRANSFER SURFACES

11. ***S.A. Grishin, A.L. Petyuk, V.A. Selyantiev, S.O. Marach*** *(Minsk),* ***A.G. Batishchev*** *(Moscow),* ***V.V. Doktorov*** *(Minsk).* METHODOLOGY, HARDWARE AND SOFTWARE FOR DEVELOPING AND EXPERIMENTAL TESTING OF A THERMAL REGULATING SYSTEM FOR SPACECRAFT BOARD SCIENTIFIC EQUIPMENT

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[11]Number of the paper corresponds to the number of the poster board.

2.30 p.m. – 6.30 p.m.

Yu.M. Matsevityi, A.P. Slesarenko *(Kharkov).* REGIONAL-STRUCTURAL REGULARIZATION OF SOLVING MULTIPARAMETER INVERSE HEAT CONDUCTION PROBLEMS (report)

A.P. Slesarenko, A.S. Soroka *(Kharkov).* INVERSE RETURN MULTIPARAMETRIC PROBLEMS OF HEAT CONDUCTION IN MODELING AND OPTIMIZATION OF THERMAL REGIMES OF CONSTRUCTIONS AT MAXIMUM HEAT ACCUMULATION (communication)

Yu.M. Matsevityi, V.A. Tarasova, D.Kh. Kharlampidi *(Kharkov).* REGENERATION OF THERMAL POTENTIAL OF GROUND DUE TO THE CHOICE OF RATIONAL OPERATING REGIMES OF A HEAT PUMP SYSTEM (report)

É. M. Kartashov *(Moscow).* THERMAL RESPONSE OF VISCOELASTIC BODIES TO A HEAT SHOCK (report)

A.M. Grishin, A.N. Golovanov, V.I. Zinchenko, K.N. Efimov, A.S. Yakimov *(Tomsk).* MATHEMATICAL AND PHYSICAL MODELING OF THERMAL PROTECTION (report)

I.A. Anoshko, A.V. Bezruchenko, V.S. Ermachenko, L.E. Sandrigailo, A.A. Smolskii, V.V. Tkachev *(Minsk),* ***V.S. Finchenko*** *(Khimki).* EXPERIMENTAL THERMAL PROTECTION TESTING OF THE SPACE VEHICLE IN THE EARTH ATMOSPHERE SUPERORBITAL ENTRANCE CONDITIONS (report)

G.V. Kuznetsov, V.Yu. Polovnikov *(Tomsk).* NUMERICAL SIMULATION OF THERMAL REGIMES OF HEAT TRANSPORTATION SYSTEMS (communication)

T.M. Pogorelyi, V.G. Mironchuk *(Kiev).* MATHEMATICAL SIMULATION OF THE RECRYSTALLIZATION PROCESS ON THE BASIS OF ANALYTICAL SOLUTIONS OF NONSTATIONARY HEAT CONDUCTION PROBLEMS IN A TWO-DIMENSIONAL CASE FOR RECTANGULAR REGIONS WITH INHOMOGENEOUS BOUNDARY AND INITIAL CONDITIONS (communication)

B.B. Kolupaev, V.V. Klepko, E.V. Lebedev *(Kiev).* INTERRELATION BETWEEN HEAT CONDUCTION AND THERMAL PRESSURE OF PHONONS IN HETEROGENEOUS POLYMERIC SYSTEMS (communication)

A.E. Piir *(Arkhangelsk),* ***V.B. Kuntysh, V.I. Volodin*** *(Minsk),* ***A.Sh. Minnigaleev, V.P. Mulin*** *(Oktyabrkii, Baskortostan).* INVESTIGATION OF CONTACT HEAT EXCHANGE OF BIMETALLIC TUBES WITH KLM–RIBS (communication)

L.E. Evseeva, S.A. Tanaeva *(Minsk).* INFLUENCE OF EXTERNAL PHYSICAL EFFECTS ON HEAT TRANSFER CHARACTERISTICS IN POLYMER COMPOSITES (communication)

N.M. Barbin, D.I. Terentiev, S.G. Alekseev *(Ekaterinburg).* THERMODYNAMIC MODELING OF EVAPORATION OF Pb--Bi MELTS AT HIGH PRESSURES (communication)

R.I. Gavriliev *(Yakutsk).* TEMPERATURE FIELD OF A TWO-LAYER SEMI-INFINITE MEDIUM AT A VARIABLE SURFACE TEMPERATURE (communication)

ROUND-TABLE DISCUSSION Ways of Modernization of Industrial Thermal Power Engineering

(Conference Hall of the A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus, 15 P.Brovka Str.)

Wednesday, September 12
10.00 a.m. – 12.00 a.m.

A.A. Dolinskii *(Kiev).* WAYS OF MODERNIZATION OF INDUSTRIAL THERMAL POWER ENGINEERING

Discussion

PROGRAM

XIV MINSK INTERNATIONAL
HEAT AND MASS TRANSFER FORUM

September 10–13, 2012

Ответственный за выпуск И. Г. Гуревич

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TIME LIMITS OF FORUM SESSIONS*

DOW	Plenary Sessions *Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus*	Section Meetings							Round-Table Discussion *Conference Hall of the A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus*
		Section 1 *Big Conference Hall of the Presidium of the National Academy of Sciences of Belarus*	**Section 2** *Small Conference Hall of the Presidium of the National Academy of Sciences of Belarus*	**Section 3** *Hall of Meetings of the Presidium of the National Academy of Sciences of Belarus*	**Section 4** *Conference Hall of the Institute of History of the National Academy of Sciences of Belarus*	**Section 5** *Conference Hall of the Institute of Physical and Organic Chemistry of the National Academy of Sciences of Belarus*	**Section 6** *Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus*	**Section 7** *Conference Hall of the B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus*	
Monday September 10	**10.00 a.m.–1.00 p.m.**	**2.30 p.m.–5.30 p.m.** **5.30 p.m.–6.30 p.m. Posters**	**2.30 p.m.–3.30 p.m. Posters** **3.30 p.m.–6.30 p.m.**	**2.30 p.m.–6.30 p.m.**	**2.30 p.m.–4.00 p.m.** **5.00 p.m.–6.30 p.m.** **4.00 p.m.–5.00 p.m. Posters**	**2.30 p.m.–6.30 p.m.**	**2.30 p.m.–6.30 p.m.**		
Tuesday September 11	**9.00 a.m.–1.00 p.m.**	**2.30 p.m.–5.30 p.m.** **5.30 p.m.–6.30 p.m. Posters**	**2.30 p.m.- 6.30 p.m.**	**2.30 p.m.–3.30 p.m. Posters** **3.30 p.m.–6.30 p.m.**	**2.30 p.m.–6.30 p.m.**	**2.30 p.m. –6.30 p.m.**		**2.30 p.m.–6.30 p.m.**	
7.30 p.m.	**Reception of Forum Participants** *(Banquet Hall, Palace of the Republic)*								
Wednesday September 12		**9.00 a.m.-12 a.m.** **12.00 a.m.–1.00 p.m. Posters** **2.30 p.m.–5.00 p.m.** **6.00 p.m.–6.30 p.m.** **5.00 p.m.–6.00 p.m. Posters**	**9.00 a.m.–10.00 a.m. Posters** **10.00 a.m.–1.00 p.m.** **2.30 p.m.-6.30 p.m.**	**9.00 a.m.–1.00 p.m.** **2.30 p.m.–3.30 p.m. Posters** **3.30 p.m.–6.30 p.m.**	**9.00 a.m.–1.00 p.m.** **4.00 p.m.–5.00 p.m. Posters** **5.00 p.m.–6.30 p.m.**	**9.00 a.m.–1.00 p.m.** **2.30 p.m.–6.30 p.m.**	**9.00 a.m.-1.00 p.m.**	**10.30 a.m.–11.30 a.m. Posters** **2.30 p.m.–6.30 p.m.**	**10.00 a.m.–12.00 a.m.**
7.30 p.m.	**Concert** *(Big Hall of the Philharmonic Society)*								
Thursday September 13	**9.00 a.m.–1.00 p.m.**								

*Lunch: 1.00 p.m.–2.30 p.m. *(the nearest café is indicated on the scheme, page 5)*