National Aerospace University «KhAI»
National Technical University «KhPI»
State Enterprise «Ivchenko-Progress»
Scientific and industrial company «FED»
Petro Mohyla Black Sea State University
Admiral Makarov National University of Shipbuilding

XIX
INTERNATIONAL CONGRESS OF
PROPULSION ENGINEERING

dedicated to 100 anniversary of Chief Designer
V.A. Lotarev

September 14 – 19, 2014

Invite letter and program

Kharkiv – Mykolaiv – Koblevo – Ukraine
WELCOME!

The 2014 Organizing Committee would like to cordially invite you to attend the XIX International Congress of Propulsion Engineering.

The Congress focuses scientific-technical communications, the determination of perspective ways to create and develop new equipment and technologies, finding new opportunities for designing the engines of non-standard schemes and sizes, making business and finding new commercial contacts.

Congress is to be hold at the «VIPOTEL» hotel & «Black Sea» hotel in Koblevo, Mykolaiv Oblast, Ukraine, September 14 – 19, 2014

Organizing Committee:
– National Aerospace University «KhAI»;
– National Technical University «KhPI»;
– State Enterprise « Ivchenko-Progress»;
– Scientific and industrial company «FED»;
– Petro Mohyla Black Sea State University;
– Admiral Makarov National University of Shipbuilding.

Languages of the Congress: Ukrainian, Russian, English.

Contact persons in Kharkiv, Ukraine:
ALEXANDER BELOGUB E-mail: a_belogub@mail.ru. (057) 788-42-03, 788-43-41
Dr. Eng., Academic Secretary SERGIY YEPIFANOV E-mail: aedlab@ic.kharkov.ua. (057) 788-43-41, 788-47-78
Dr. Eng., Prof.

Regulations:
Report to the plenary session 25 min.
Report to the session 12 min.
Discussion 5 min.

Available technical facilities:
- PC with projector (Power Point presentations preferred).

Arrival day: September 14
Registration from 9th to 20th
Conference dates: September 15-18
Departure day: September 19
How to get to the place of event: Shuttle busses Odessa (railway station) – Koblevo, Mykolaiv (railway station) – Koblevo, Odessa (airport) – Koblevo.

Organizing Committee strongly recommends to:
• by return tickets beforehand;
• inform the Committee about day and time you plan to arrive to the Congress;
• prepare the poster presentation because of possible changes in sessions schedule (Authors may choose the most convenient format of the poster presentation).
CHAIRS/COMMITTEE OF THE CONGRESS

Conference Chair – Rector of National Aerospace University “KhAI”, Dr.Eng., Prof. V.S. Krivtsov

Vice chair – Rector of Petro Mohyla Black Sea State University Dr.Eng., Prof. L.P. Klimenko

Chairman – Chief designer of State Enterprise « Ivchenko-Progress», PhD, Assoc. Prof. I.F. Kravchenko;

Vice rector of National Technical University «KhPI», Dr.Eng., Prof. A.P. Marchenko

Academic Secretary – Prof. of National Aerospace University “KhAI”, Dr.eng. O.V. Belogub

Committee:
- PhD Alyokhin S.A. (KhKBD Diesel Engines Design Bureau, Ukraine)
- Dr.Eng., Prof. Ambrozik Andg. (Polytechnica Sventokshyska, Poland)
- Dr.Eng., Prof. Bezruchko K.V. (KhAI University, Ukraine)
- Dr.Eng., Prof. Belogub O.V. (KhAI University, Ukraine)
- Dr.Eng., Prof. Vorobyov Y.S. (IPMash NASU)
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- Dr.Eng., Prof. Nozhnitsky Y.A. (CIAM, Russian Federation)
- Dr.Eng., Prof. Parsadanov, I.V. (NTU “KhPI”, Ukraine)
- NASU Cor.Mem. Pilipenko O.V. (Inst. of Technical Mechanics NASU and NCAU, Ukraine)
- RAS., Academ. Petukhov A.N. (CIAM, Russian Federation)
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- Dr.Eng., Prof. Strokov A.P. (IPMash NASU, Ukraine)
- Dr.Eng., Prof. Timoshhevskiy B.G. (Admiral Makarov NUS, Ukraine)
- PhD, Assoc. Prof. Fedorchenko D.G. (JSC Kuznetsov, Russian Federation)
- NASU Academ. Halatov A.A. (IET ANSU, Ukraine)
- Dr.Eng., Prof. Chaynov N.D. (MSTU, Russian Federation)

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Talda Kateryna G. (057) 759-05-33

E-mail: aedlab@gmail.com
PROGRAM OF CONGRESS

September 15
10:00 – 13:00

PLENARY SESSION

Session Chair: V.S. Krivtsov, Dr.Eng. (KhAI, Kharkiv);
L.P. Klimenko, Dr.Eng. (BSSU, Mykolaiv);
I.F. Kravchenko, PhD (SE «Ivchenko-Progress», Zaporizhia);
A.P. Marchenko, Dr.Eng. (NTU «KhPI», Kharkiv)

Academic Secretary: O.V. Belogub, Dr.Eng. (KhAI, Kharkiv)

1. I.F. KRAVCHENKO (Zaporizhia). New concepts in designing the engines for trainer and military aircrafts.
2. V.E. MAKAROV, V.A. SHORSTOV, T.V. BUYUKLI (Moscow). Solving problems of aeroelasticity for propeller blades of turbofans with high bypass ratio.
3. V.M. MERKULOVO. (Zaporizhia). Academician V.A. Lotarev – Chief designer of Ukrainian aircraft engines. Dedicated to 100 anniversary.

Evening Meeting of Section

GENERAL PROBLEMS OF PROPULSION ENGINEERING

September 15, 14:00 – 19:00

Chairmen: V.V. Loginov, Dr. Eng (KhAFU, Kharkov);
V.P. Parafeynik, Dr. Eng. (SKB TKM, Sumy);
A.A. Tamargazin, Dr. Eng. (NAU, Kiev)

Secretary: S.M. Stepanenko, Ph.D. (SC “Ivchenko-Progress”, Zaporozhye)

2. V.V. LOGINOV, V.V. VOITENKO (Kharkov). **Complex method of parametric cast of countenance forming for aircraft power plant.**

3. V.V. LOGINOV, A.N. SOROCHKIN (Kharkov). **Method to estimate the aerial destruction means influence on the aircraft power plant performances.**

4. V.V. LOGINOV, V.V. VOITENKO (Kharkov). **Influence of aircraft power plant maintenance and repairing strategies on efficiency of military aircraft specific tasks execution.**

5. E.Yu. ILENKO (Kharkov). **Approaching estimation of influence of aerodynamic pilotless aircrafts arrangement on radio-location noticeableness.**

6. E.Yu. ILENKO (Kharkov). **Influence of UAVs aerodynamic configuration on radar visibility.**

7. V.V. LOGINOV, E.A. UKRAINETC, I.F. KRAVCHENKO, A.V. YELANSKIY (Kharkov, Zaporozhye). **Comparative analysis of aircraft diesel and gas turbine engines in the system of the light regional aircraft.**

8. A.I. POPUGA, V.V. KOLYADA, A.V. ELANSKY (ZAPROZHE). **Shaping a reasonable appearance of engine - engine nacelle - aircraft pylon system using computational modeling.**

9. E. MENIAILOV, K. UGRYUMOVA, A. TRONCHUCK, S CHERNYSH (Kharkov). **Formation of technical systems image under uncertainty of the initial data based on artificial intelligence methods.**

10. E. LITOSH, V. DOROSH (Nikolayev). **Conception of application and improvement of hermetic compressor units of ship firing-conditioning and refrigerating equipment.**

11. V.I. RYABKOV, D.V. TINYAKOV (Kharkov). **Dependence of aircraft power plant fuel efficiency on the lifting surface geometrical parameters.**


13. A.N. TRUNOV (Nikolayev). **Programming technology effectiveness evaluating.**

17. A.B. TOMASHEVSKYI, G.V. SNIZHNOI, V.V. TULIS (Zaporozhye). Influence of certification on aviation enterprise products competitiveness.

Evening Meeting of Section
DESIGN AND STRENGTH

September 15, 14 00 – 19 00

Chairmen: D.F. Simbirski, Dr. Eng. (KhAI, Kharkov); A.A. Khalatov, Dr. Eng. (IPS, Kiev); M.G. Shulzhenko Dr. Eng. (IPMach, Kharkov);
Secretary: R.P. Pridorozhniy, PhD. (SC “Ivchenko-Progress”, Zaporozhye)

1. Ye.F. PAROVAY, S.V. FALALEEEV (Samara). Optimization research of segment hydrodynamic bearing characteristics: dependency on shaft eccentricity.
2. V.I. NAZIN (Kharkov). Theory of the double-type hydrostatodynamic bearing with elastic positioning of the disc working surface.
3. V.I. NAZIN (Kharkov). Test-bed, pilot plant and method of experimental researches of the double-type hydrostatodynamic bearings.
8. V.G. NESTERENKO, V.V. NESTERENKO, A.A. MATUSHKIN, S.A. MASLAKOV, A. ASADOLLAHI, A. REVANT REDDI (Moskva, Teheran). Studies and analysis of the effectiveness of air cooling systems of GTE high pressure turbine blades.
9. V.G. ZARENBIN, N.I. MISCHENKO, V.V. BOGOMOLOV (Dnepropetrovsk, Gorlovka). Calculation of temperatures at a plural contact in the conditions of the transient friction modes.
11. A.O. SHKLOVETS, A.V. URLAPKIN, K.V. BOYAROV (Samara). Strength lapping of bladed disks of modernized gas pumping unit NK-36ST
13. A.V. LOS (Kiev). Fatigue life of the joint subassemblies of hinge assemblies at skew-symmetrical loading.
14. A.V. LOS (Kiev). Criteria of effective application of antifriction coatings in movable ultimate and skew loaded aircraft units.
15. A.V. LOS (Kiev). *Effect of skew-symmetrical loading on bending stresses in joint subassemblies of hinge assemblies of airplanes.*

16. V.P. GOLUB (Kiev). *On the solution of the fatigue problems under the biaxial combined loading based on the classical fracture criteria.*


19. A.V. SHEREMETьEV, R.P. PRIDOROZHNYIY, T.I. PRIBORA (Zaporozhye). *Strength and reliability ensuring of high bypass ratio turbofans*

20. A.N. NEFYODOV (Sumy). *Analysis of radial forces acting rotor of centrifugal compressor of gas-compressor unit with gas turbine drive.*

21. A.S. DANOV (Kharkov). *Research of static and fatigue characteristics of D16AT alloy joints made by VT-16 titanic rivets with restrictive elements at constrained pressing.*


September 16

Morning Meeting of Section

PISTON COMBUSTION ENGINES

September 16, 9 00 – 13 00

Chairmen: A.V. Grytsyuk, Dr. Eng. (HKBD, Kharkov);
V.A. Zhukov, Dr. Eng. (AMSUMIS, S-t Petersburg)
A.P. Marchenko, Dr. Eng. (KhPI, Kharkov);

Secretary: V.V. Pylyov, (NTU «KhPI», Kharkov)

1. S.A. ALYOHIN, V.P. GERASIMENKO (Kharkov). Design concept of transport diesel engine.
4. A.V. GRYTSYUK, A.A. OVCHINNIKOV (Kharkov). Selection and background of additional criterion to form an external characteristic of automotive diesel.
5. A. MARCHENKO, A. OSETOV, S. KRAVCHENKO (Kharkov). Study and mathematical simulation of the combustion process in the engine with pre-chamber ignition.
9. F. ABRAMCHUK, O. VRUBLEVSKIY, S. PODLISHCHUK (Kharkov). Ways to improve the effectiveness of ICE as power unit for car HADI-34


12. A.A. LISOVAL, M.Ye. NYZHNYK, Yu.A. SVISTUN (Kiev). Operating characteristics research of gas engine running on the fuels with different content of carbon dioxide.


15. A.P. MARCHENKO, V.V. PYLYOV (Kharkov). The character of coated piston combustion chamber surface temperature state in the regions of presence of the fuel film.

16. A. PROKHORENKO (Kharkov). Mathematical description of combined diesel engine with common rail system as the controlled object.

17. A.A. PROKHORENKO, I.G. POZHIDAEV (Kharkov). Mathematical modeling and experiment-calculated research of the common-rail fuel delivery system adjustment in diesel.


19. S.V. LOZNIA, S.O. PUSTOVOYI (KIEV). Hardware and software tools for design and optimization spark ignition internal combustion engine.

20. N.V. PANASENKO, V.I. PELEPEYCHENKO, N.I. SERGIENKO (Kharkov). Control principles of diesel generators of a locomotive two-diesel power station in processes of load redistribution between them.


Morning Meeting of Section

ENGINES AND POWER PLANTS FOR SPACE ROCKET ENGINEERING

September 16, 9:00 – 13:00

Chairmen: N.M. Dron’, Dr. Eng. (DNU, Dnepropetrovsk);
A.V. Loyan, PhD. (KhAI, Kharkov)

Secretary: S.Yu. Nesterenko (KhAI, Kharkov)

2. N.M. DRON’, P.G. HOROLSKY, L.G .DUBOVIK (Dnepropetrovsk). To one way of space objects withdrawal from low Earth orbits.


5. S.A. OGHIEKO (Kharkov). Regularities of plasma conductivity in the stationary plasma thruster discharge interval.


7. A.N. KHAUSTOVA (Kharkov). Calibration of fiber-optic spectrometer for optical emission spectroscopy method of electric propulsion.


9. V.Yu. SKOSAR (Dnepropetrovsk). Possible mechanisms of energy emission in cavitation devices.


13. V.S. REVA, V.P. FROLOV, K.N. ZEMLYANYI (Dnepropetrovsk). Providing of electric power backup and trouble-free operation of power supply systems intended for the space launch system ground complex.

14. S.V. SHIRINSKY (Kharkov). Creation of mathematical models of discharge characteristics of electrochemical accumulators of various types by means of equivalent circuits.
Evening Meeting of Section

THEORY AND OPERATION PROCESSES

September 16, 9:00 – 13:00

Chairmen: B.D. Bileka, Dr. Eng. (ITTPh, Kiev);
B.G. Timoshevsky, Dr. Eng. (NUSh, Nikolayev)
M.R. Tkach, Dr. Eng. (NUSh, Nikolayev)

Secretary: I.I. Petukhov, Ph.D. (KhAI, Kharkov)

2. A.M. TERESHIN (Zhukovsky). Hypersonic ramjet with detonation burning.
4. V.P. SOTNIKOV (Yenakijeve) Thermodynamic multi-process of gas compression considering pressure losses due to interim cooling.
11. B.S. MAMEDOV (Zaporozhye). The integrated theory of continuous flow propulsion. New destination and operational principle of "zero" low pressure compressor stage.
12. B.S. MAMEDOV (Zaporozhe). The integrated theory of continuous flow propulsion. The reasons of turbo-jet unstable opera-
tion during takeoff in hot conditions.
14. O.V. KISLOV (Kharkov). Two-parameter characteristics of the GTE gas generator
15. O.V. KISLOV (Kharkov). Peculiarities of converted GTE free turbine operational mode selection.
17. V.A. SHKABURA (Kharkov). Researching of turbine zone and compressor zone of turbo-compressor with common impeller for gas turbine engines.
22. E.S. GORACHKIN, G.M. POPOV, V.N. MATVEEV (Samara). Workflow modeling of three stage low pressure compressor of gas turbine engine.
25. M.Y. SHELKOISKY (Nikolayev). Aerodynamic improvement of axial ten-stage compressor of stationary GTE.
Evening Meeting of Section

DESIGN AND STRENGTH

September 16, 14:00 – 19:00

Chairmen:  
Yu.S. Vorobyov, Dr. Eng. (IPMash, Kharkov);  
A.P. Zinkoskiy, Dr. Eng. (IPS, Kiev);  
A.V. Sheremetev, PhD.  
(SC “Ivchenko-Progress”, Zaporozhye);  

Secretary:  
A.A. Brunak (KhAI, Kharkov)


3. E. PUHACHEVSKA (Kiev). Operational characteristics of electro-spark coatings on the base of refractory borides.


8. K.V. VAKULENKO, I.V. BIBLIK, I.B. KAZAK (Kharkov). Surface damageability during the cavitation erosion of steel 20X13 with coatings.


11. D.F. SIMBIRSKIJ, A.A. BRUNAK. (Kharkov). ЖС-6КП alloy sensitivity to repetition of continuous static loadings at high temperatures.

12. Yu.B. NAZARENKO (Moskow). Avoidance of resonance with
rotor's critical revolution frequency in case of elliptic trajectory of bearing shaft axis revolution on support bearing.

13. Yu.B. NAZARENKO, S.A. RODYUK (Moscow). Parametric resonance low pressure turbine rotor with the appearance of a gap on the landing girdle sock and shaft LPT.


15. A.I. ERMAKOV, A.V. URLAPKIN (Samara). Research of influence of vibration connectedness of blades to eigenmode of mistuned blade disk.

16. V.N. MEL’NICK, V.V. KARACHUN, G.V. BOIKO (Kiev). The impedance plate in the operational acoustic field of the apparatus


19. Y.A. GUSEV, A.V. BELOGUB, KAMBIZ KAHRAI (Kharkov). Deformation transfer analysis in the high-temperature film resistive-strain sensor.


September 17

Morning Meeting of Section

AUTOMATIC CONTROL SYSTEMS AND DIAGNOSTICS

September 17, 9 00 – 13 00

Chairmen:  R.A. Varbanets, Dr. Eng.; (ONSU, Odessa);  
S.A. Dmitriev, Dr. Eng. (NAU, Kiev);  
S.V. Yepifanov, Dr. Eng. (KhAI, Kharkov)

Secretary:  M.V. Shevchenko (KhAI, Kharkov)

1. V.I. GOPTAREV A.P. SHEVTSOV O.V. DEREVENETS V.N. SUSHKOV. (Voronezh). New generation of noncontact torque metering units БИКМ М-106М for power units technical state diagnostics.
2. A.N. MARKUSHIN, A.V. BAKLANOV (Kazan). Test results of measurements of carbon dioxide concentration in the jets of swirl burners.
3. Y.P. LESCHENKO (Kiev). Robot measurement of geometric parameters by intelligent measuring systems.
6. V.V. UMINSKIY (Zhitomir). Algorithm of autonomous mobile robot coordinates optimal estimating based on the differential transformation.
9. V.V. PANIN, S.V. ENCPEV, S.O. TAKU (Kiev). Synthesizing the neural network model of aircraft engine hydromechanical ACS.
10. V.F. MIRGOROD, V.V. DANILOV (Odessa). Computable realization of state space mathematical models in Hammershtein form.
11. Ie.O. KONONYKHIN (Kharkov). **Optimization of turboshaft acceleration control algorithm.**
12. S.V. ENCHEV M.O. OLALI, N.V. OLALI (Kiev). **Assessing the quality of ACS of aircraft engines for identifying its technical state purposes.**
13. LYUDMILA N. POKYDKO (Kiev). **Positioning control algorithms synthesis for deflectors control systems.**
14. V.V. LYUBCHENKO (Kiev). **Data visualization in automated control systems.**
15. V.V. KOROBKO, O.V. KOROBKO, G.V. KONDRAITENKO (Mykolaiv). **Fuzzy logic control system of "engine-heat pump" type thermoacoustic thermal machine.**
16. V.V. KOROBKO, A.A. MOSKOVKO (Mykolaiv) **Features of thermoacoustic engine starting with low-temperature thermal energy sources**
17. M.A. TARASENKO, A.I. TARASENKO (Mykolaiv). **Comparative analysis of partial modes for single-shaft and multi-shaft turbine engine with changing ambient temperature.**
18. V.F. MIRGOROD , I.M. GVOZDEVA (Odessa). **Optimal control of piece-linear dynamic systems.**
19. G.S. RANCHENKO, A.G. BURYACHENKO, V.M. GRUDINKIN, N.L. GOLUBEV, V.V. DANILOV (Odessa). **Engine AI-450m regulator – results of development and qualification for category A.**
20. A.V. KULALAYEV, V.V. KULALAEV (Kharkov). **Synthesis of control systems of information channels spatial location while optic-electronic counteraction to tracking and homing systems.**

**Morning Meeting of Section**

**PISTON COMBUSTION ENGINES**

**September 17, 9 00 – 13 00**

Chairmen: **F.I. Abramchuk, Dr. Eng.** (KhNARU, Kharkov);
**Yu.F. Gutarevich, Dr. of Eng.** (NTU, Kiev);
**I.V. Parsadanov, Dr. Eng.** (NTU «KhPI», Kharkov);
Secretary: **A.A. Zotov** (Vector-ATTRACTION , Kharkov)

1. M.V. VED’, N.D. SAKHNENKO, D.S. ANDROSHCHUK, T.P. YAROSHOK (Kharkov). **Active catalytic coating formation on the working surface of combustion chambers of ICE.**
6. N.M. LUKOV, O.N. ROMASHKOVA, A.S. KOSMODAMIANSKY; G.F. KASHNIKOV (Moskva, Kolomna). The method of calculation of dynamic characteristics and parameters in locomotive power plant as object of shaft’s speed adjustment.
7. S.A. ALYOHIN, A.N. KOVALENKO, A.N. KOSOVTVSEV, S.V. LYKOV (Kharkov). Frictionless bearings of the piston head of a connecting rod in high-power two-stroke engines.
12. V.P. SAVCHUK (Herson). The analysis of reliability of cylinder liners of engines of the company MAN B&W series S70 and S80MC.
14. V.D. ZONOV (Kharkov). Mathematical model of running-in criterion in the piston-cylinder unit of locomotive diesels engine
during factory testing.


17. N.A. TKACHUK, O.V. VERETELNIK, A.V. GRABOWSKI, S.A. KRAVCHENKO, S.Yu. BELIK (Kharkov). Numerical simulation of contact interaction in engine parts that was manufactured using combined technology.


24. V.V. SHPAKOVSkiYY (Kharkov). Resource prolongation of the internal combustion engine by installation of pistons with corundum layer.


Evening Meeting of Section

TECHNOLOGY

September 17, 1400 – 1900

Chairmen: A.I. Dolmatov, Dr. Eng. (KhAI, Kharkov);
N.E. Kalinina, Dr. Eng. (DGU, Dnepropetrovsk);
A.Ya. Kachan Dr. Eng. (ZNTU, Zaporozhye)

Secretary: I.O. Ternyuk (KhAI, Kharkov)


4. N.F. SAVCHENKO, V.V. TRETYAK, A.V. ONOPCHENKO, S.A. STADNIK (Kharkov, Zaporozhye). Determining of material utilization factor in stamping and methods to increase its.

5. T.V. TYKHOMYROVA, S.V. GAYDUK (Zaporozhye). Research of influence of the tungsten to silicon relation on phase structure and characteristic temperatures of the cobalt alloy by CALPHAD method.

7. Cs.A. BUKATYI (Rybinsk). **Phenomenon of materials and parts temperature characteristics nonlinearity and perspectives of its application in GTE parts manufacturing.**

8. N.E. KALININA, A.E. YUKHYMENKO, V.T. KALININ (Dnepropetrovsk). **An integrated modification of complex-doped heat resistant alloys.**

9. N.Y. KALINICHENKO, S.E. MARKOVICH (Kharkov). **The thermal model to estimate temperature fields in near-surface layers of parts that are machined by planetary grinding technology.**

10. A.A. KABATOV, A.P. HARITONYUK, Yu.V. CHERNIY (Kharkov). **Analysis and optimization of diamond smoothing technology for engine parts made of stainless steel.**

11. I.A. PETRIC, A.G. SELIVERSTOV, A.V. OVCHINNIKOV (Zaporozhye). **Properties improvement of welding joints of rotor parts made of titanium alloys.**

12. A. OVCHINNIKOV (Zaporozhye). **Aircraft engine parts made from titanium alloys repairing using welding methods with sub-microcrystal adding materials.**

13. A. A. KOLOS (Kharkov). **The ultrasound clearing in freon compositions.**

14. V.F. SOROKIN, I.O. TERNYUK (Kharkov). **Calculation of the productivity of the machining processes of gas turbine engine’s compressor and turbine blisks.**

15. V.F. SOROKIN, V.V. KOMBAROV, I.A. TERNYUK (Kharkov). **Stabilization of contour feedrate for the spline interpolator CNC system by high-speed processing criterion.**

16. V.F. SOROKIN, N.V. MUHA (Kharkov). **Designing the control programs for multipurpose NC workstation tool to machine casings of aircraft engine accessories.**

17. V.V. TRETYAK, S.A. STADNIK, A.V. ONOPCHENKO, T.G. ZEYNIEV (Kharkov, Zaporozhye). **Algorithm of adjustment of parameters of the impulsive stamping of sheet details and its program realization taking into account the experimentally approved technology.**

18. V.V. TRETYAK, A.I. DOLMATOV, A.S. FEDOROVA, S.V. BREUS (Kharkov). **Development of educational program complex for computation of impulse volumetric stamping parameters.**
19. V.V. TRETYAK (Kharkov). Possibilities and realization of objective approach for decision of invention tasks using method of non-prototype designing in impulse technology.

20. V.V. TRETYAK, S.V. HUDYAKOV, V.D. SOTNIKOV, I.V. SKORCHENKO (Kharkov). Features of of impulsive stamping technology planning using knowledge base.

21. Yu.A. NEVESHKIN, V.V. TRETYAK, S.V. GAJDUK, V.Yu. LADIMYRYCH (Kharkov) Analysis of parameters of the stamping process for volumetric parts of aircraft engines using software DEFORM.

Evening Meeting of Section
THEORY AND OPERATION PROCESSES

September 17, 14 00 – 19 00

Chairmen: A.V. Rusanov, Dr. Eng. (IPMash, Kharkov);
V.I. Ryabkov, Dr. Eng. (KhAI, Kharkov);
S.I. Serbin, Dr. Eng. (NUSH, Nikolayev)

Secretary: V.V. Voitenko (KhUAf, Kharkov)


8. F. MOHAMMADSADEGHI (Kharkov). Simulation of stalling and unsteady operating modes of axial compressor stage for pre-stall state detecting.


10. V.A. GRIGORIEV, D.S. KALABUHOV, V.M. RAD’KO (Samara). Methods of gas turbine’s characteristics generalization and representation.

11. E.S. GORACHKIN, G.M. POPOV, V.N. MATVEEV (Samara). Workflow modeling of gas turbine engine three stage low pressure compressor.


16. S.I. SERBIN, N.A. GONCHAROVA (Nikolayev). The features of the workflow of GTE combustor running on syngas with a different composition


22. D.A. DOLMATOV (Kharkiv). The peculiarities of modeling the combustion of polyvariant split-up heavy hydrocarbons.


24. A.N. RADCHENKO, RAMZI EL GERBI (Nikolayev). Recuperative GTE intake air cooling by absorption and ejector waste heat recovery chillers.

25. A.N. RADCHENKO, RAMZI EL GERBI (Nikolayev). Recuperative GTE intake air two-stage cooling by cascade absorption-ejector waste heat recovery chiller.

26. A.A. MORYA, E.I. TRUSHLYAKOV, F.A. CHEGRINZEV (Nikolayev). Regulation of centrifugal compressor by the channel diffuser with the rotary disc.

27. A.A. TROPINA, A.P. KUZMENKO, D.V. VILCHINSKY (Kharkov). Ignition system on the basis of the nanosecond pulsed discharge.

September 18

Morning Meeting of Section

AUTOMATIC CONTROL SYSTEMS AND DIAGNOSTICS

September 18, 9 00 – 13 00

Chairmen: V.P. Ischuk PhD. (ANTONOV Co);
V.V. Panin, Dr. Eng. (KSMAN, Kiev);
A.N. Reva, Dr. Eng. (NAU, Kiev);
Secretary: S.V. Loznya, PhD. («Cortis» LLC, Kiev)

1. S.O. DMYTRIEV, V.I. BURLAKOV, O.V. POPOV, D.V. POPOV (Kiev) Aircrafts and aircraft engines maintenance procedures formalization and optimal programs determination.

2. O. YAKUSHENKO, P. VLASENKO (Kiev). Using of improved maintenance quality rate for choosing the most optimal repairing companies.

3. P.Sh. MUKHTAROV (Baku). Basic dominants in making decisions by air traffic controller during estimating of utility-safety norm for air space echeloning.
4. A.H. REVA, P.Sh. MUKHTAROV, B.M. MIRZAYEV V.I. VDOVICHENKO Sh.Sh. NASIROV (Baku, Kiev, Novosibirsk). Steadiness of main dominant of making decisions by air traffic controller in risk conditions.

5. O.M. REVA S.P. BORSUK, V.A. SHYLGIN (Kiev, Kirovograd). Ultimate risk levels determination at norms of air space flight levels violation.


10. Y.V. PEPA (Kiev). Recognition of random signals based on spectral measures.


17. V.O. POVGORODNY (Kharkov). **System of the power equipment diagnostics**

18. V.N. ZHURAVLEV, A.V. PAPCHONKOV, S.A. BORZOV (Zaporozhye). **Methodical adequacy of Fourier model in the technical diagnostics of gas turbine engine reduction gears.**

19. V.V. PANIN, S.V. ENCHEV, S.S. TOVKACH (Kiev). **Wavelet-diagnostics of gas turbine engine elements vibration state.**

20. I.O. IGUMENTSEV, O.O. PROKOPENKO (Kharkov). **Charged gyroscope movement model.**

**PLENARY MEETING**

September 18, 18\(^{00}\) – 19\(^{00}\)

- Information of Sections Chairmen on the work results.
- Consideration of work results of the XIX-th International Congress of Propulsion Engineering.
- Approval of the Congress decision.

Close
of the XIX-th International Congress of Propulsion Engineering.