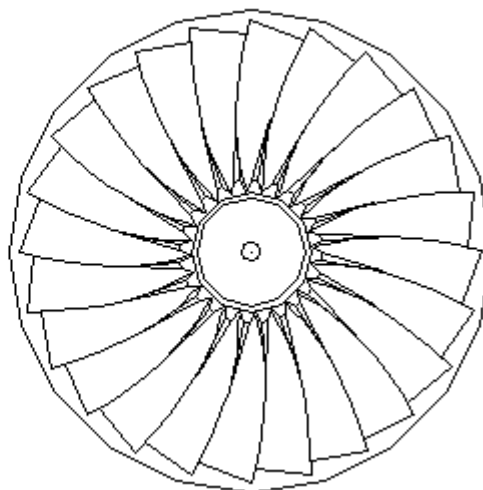
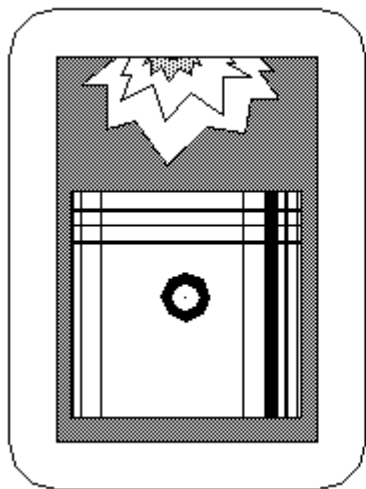


**National Aerospace University «KhAI»
National Technical University «KhPI»
State Enterprise «Ivchenko-Progress»
Joint Stock Company «Motor Sich»
Joint Stock Company «FED»
Petro Mohyla Black Sea National University
Admiral Makarov National University of Shipbuilding**



**XXII
INTERNATIONAL
CONGRESS OF
PROPULSION ENGINEERING**

September 4-9, 2017

Invite letter and program

Kharkiv – Mykolaiv – Koblevo – Ukraine

WELCOME!

The 2016 Organizing Committee would like to cordially invite you to attend the XXII 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 «Millenium» hotel in Koblevo, Mykolaiv Oblast, Ukraine, September 04-09, 2017

ORGANIZING COMMITTEE:

- National Aerospace University «KhAI»;
- National Technical University «KhPI»;
- State Enterprise «Ivchenko-Progress»;
- Joint Stock Company «Motor Sich»;
- Public Joint Stock Company «FED»;
- Petro Mohyla Black Sea National University;
- Admiral Makarov National University of Shipbuilding.

Languages of the Congress: Ukrainian, Russian, English.

Contact persons in Kharkiv, Ukraine:

ALEXANDER BILOGUB
Dr. Eng., Prof., Academic Secretary
SERGIY YEPIFANOV
Dr. Eng., Prof.

E-mail: a_belogub@mail.ru.
+38 (057) 788-42-03, 788-43-41
E-mail: aedlab@gmail.com.
+38 (057) 788-43-41, 788-47-78

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 05
Registration from 9⁰⁰ to 20⁰⁰	
Conference dates:	September 06-09
Departure day:	September 10

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

- Presidium:**
- Boguslayev V. A.** – President of «Motor Sich» JSC, Designer General, Dr. Eng., Prof.
 - Yepifanov S. V.** – Head of Aero Engine Design Department, National Aerospace university «KhAI», Dr. Eng., Prof.
 - Klimenko L. P.** - Rector of Petro Mohyla Black Sea National University Dr. Eng., Prof.
 - Kravchenko I. F.** - Director of «Ivchenko-Progress» State Enterprise, Designer General, Dr. Eng., As. Prof.
 - Marchenko A. P.** - Vice rector of National Technical University KhPI», Dr. Eng., Prof.
 - Popov V. V.** – Chairmen of the Board of «FED» JSC, Ph.D., As. Prof.

Academic Secretary: Prof. of National Aerospace university «KhAI», Dr. Eng., Prof. **O. V. Bilogub**

Chairs/committee members:

- Dr.Eng., Prof. Ambrozik And. («Polytechnica Sventokshyska», Poland))
- Dr.Eng., Prof. Bezruchko K. V. («KhAI» University, Ukraine)
- Dr.Eng., Prof. Bilogub O. V. («KhAI» University, Ukraine)
- Dr.Eng., Prof. Chaynov N. D. (MSTU, Russia)
- Dr.Eng., Prof. Gaydachuk O. V. («KhAI» University, Ukraine)
- Dr.Eng., Prof. Dmitriyev S. A. (NAU, Ukraine)
- Dr.Eng., Prof. Dolmatov A. I. («KhAI» University, Ukraine)
- Dr.Eng., Prof. Zin'kovskiy A. P. (IPS NASU Ukraine)
- NASU Academ. Khalatov A. A. (ITE NAU, Ukraine)
- Dr.Eng., Prof. Kolotnikov M. Y. («DZHI and RUS» Ltd., Russia)
- Dr.Eng., Prof. Kucharenok G. M. (BNTU, Belarus)
- Dr.Eng., Prof. Kulik N. S. (NAU, Ukraine)
- NASU Academ. Matsevity Y. M. (IPMash, NASU, Ukraine)
- Dr.Eng., Prof. Nozhnitsky Y. A. (CIAM Central Institute for Aircraft Motors, Russia)
- 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. Popov G. A. («RIAME MAI», Russia)
- RAS., Academ. Petukhov A. N. (CIAM Central Institute for Aircraft Motors, Russia)
- Dr.Eng., Prof. Pylev V. A. (NTU «KhPI», Ukraine)
- Dr.Eng., Prof. Radkovski S. (Polytechnika Warszawska)
- NASU Cor.Mem. Rusanov A. V. (IPMash, NASU, Ukraine)
- Dr.Eng., Prof. Simbirsky D. F. («KhAI» University, Ukraine)
- Dr.Eng., Prof. Stokov A. P. (KPU, Ukraine)
- Dr.Eng., Prof. Timoshevskiy B. G. (Admiral Makarov NUS, Ukraine)
- NASU Cor.Mem. Timoshenko V. I. (Inst. of Technical Mechanics NASU and NCAU, Ukraine)
- Dr.Eng., Prof. Vorobyov Y. S. (IPMash NASU)
- Dr.Eng., Prof. Yeroshchenkov S. A. (Railroad Academy, Ukraine)

Working group:

- Yepifanov Sergiy V., Dr. Eng., Prof. +38 (057) 788-45-25, (057) 788-43-41, 788-47-78
- Kulyk Tamara V. +38 (057) 788-47-78, (057) 788-45-25
- Boyko Valeriya V. +38 (057) 788-45-25, (057) 788-43-41
- Bozhenenko Tamara A. +38 (057) 788-47-78, (057) 788-43-41

E-mail: aedlab@gmail.com

PROGRAM OF CONGRESS

September 5

10⁰⁰ – 13⁰⁰

PLENARY SESSION

Session Chair: **V. A. Boguslayev**, Dr. Eng. («Motor Sich», Zaporozhye);
S. V. Yepifanov, Dr. Eng. (KhAI, Kharkov);
L. P. Klimenko, Dr. Eng. (BSSU, Nikolaev);
I. F. Kravchenko, Dr. Eng. (SE «Ivchenko-Progress», Zaporozhye);
A. P. Marchenko, Dr. Eng. (NTU «KhPI», Kharkov);
V. V. Popov («FED», Kharkov).

Academic

Secretary: **A. V. Belogub**, Dr. Eng. (KhAI, Kharkov).

1. **I. F. KRAVCHENKO, O. N. DRYNOV** (Zaporozhye). **Researches of «Ivchenko-Progress» SE on the super-high bypass ratio geared turbofan**
2. **A. P. MARCHENKO, V. V. YEPIFANOV, I. V. PARSADANOV, V. A. PYLYOV** (Kharkov). **Engines for armoured vehicles: yesterday, today and tomorrow**
3. **A. I. DOLMATOV** (Kharkov). **Technological methods for aircraft engine parts lifetime providing**

Evening Meeting of Section

GENERAL PROBLEMS OF PROPULSION ENGINEERING

September 5, 14⁰⁰ – 19⁰⁰

Chairmen: **V. V. Loginov**, Dr. Eng. (KhAFU, Kharkov);
V. P. Parafeynik, Dr. Eng. (Sumy SPE, Sumy).
Secretary: **S. M. Stepanenko**, PhD (SE «Ivchenko-Progress»).

1. **A. N. MARININA, S. M. STEPANENKO, V. G. KHARCHENKO** (Zaporozhye). **The analysis of context of the aircraft engine manufacturing organization according to the requirements of the ISO 9001:2015 standard**
2. **S. M. STEPANENKO** (Zaporozhye). **On the question of application of new versions of ISO 9001:2015 AND AS / EN 9100D:2016 in the aircraft engine manufacturing industry**

3. YU. A. ULITENKO, O. V. KISLOV (Zaporozhye). **Method of substantiation of the scheme and selection of parameters of the power plant for aircraft for flight speed $MP = 0 \dots 5$**
4. V. V. LOGINOV, YE. A. UKRAINETZ (Kharkov). **Influence of the control thrust vector on the basic flight and technical performance of a prospective fighter aircraft**
5. A. N. SOROCHKIN (Kharkov). **Impact assessment of overall parameters of air weapons in the overall rate of aerodynamic resistance of the aircraft**
6. A. G. BURYACHENKO, I. A. RYBAKOVA, O. V. NIEMCHENKO (Odessa). **Transition from ISO 9001:2008 to ISO 9001:2015 as a factor of increasing the efficiency of work of the enterprise**
7. V. V. NERUBASSKY, V. M. GRUDINKIN (Odessa). **Lifetime test bed development for helicopter parts and assemblies testing**
8. D. V. KOLESNYK (Odessa). **Ship propulsion plant with rudder propeller**
9. L. V. KAPITANOVA, V. E. ZAITSEV (Kharkov). **Trends in changing the main parameters when creating modifications to the transport category aircraft**

Evening Meeting of Section

DESIGN AND STRENGTH

September 5, 14⁰⁰ – 19⁰⁰

Chairmen: **Yu. S. Vorobyov**, Dr. Eng. (IPMash, Kharkov);
A. P. Zin'kovskiy, Dr.Eng. (IPS, Kiev).
 Secretary: **E. V. Martsenyuk** (KhAI, Kharkov).

1. A. A. TAMARGAZIN, A. G. DOVGAL, L. B. PRYIMAK (Kiev). **Increase of operational properties of aviation ground equipment power plants mechanical seals blowers details**
2. R. Yu. TURNA, V. S. CHYGRYN, YE. V. MARTSENIUK, D. Yu. ZINCHENKO, A.V. BELOGUB (Kharkov). **Heat controlled accumulator (HCA) development for zero-gravity condition use**
3. R. Yu. TURNA, Ye. V. MARTSENYUK, D. Yu. ZINCHENKO, A. V. BELOGUB (Kharkov). **Heat controlled accumulator (HCA) mounting on a load-bearing structure of satellite**
4. V. O. POVGORODNY (Kharkov). **Inverse problems of thermoelasticity for thin ring**

5. O. POLIARUS, O. UMANSKYI, O. STELMAH, Yu. EVDOKIMENKO, V. KYSIL, V. SUBBOTIN (Kiev). **Influence of materials composition on their high temperature erosion gas-abrasive mechanism of wear**
6. K. V. SAVCHENKO, A. P. ZINKOVSKII, I. G. TOKAR (Kiev). **Influence of modeling of angle of radial chamfer of contact surfaces of shrouds on static state of their bladed disks**
7. V. M. MERKULOV, A. V. SHEREMETYEYEV, A. V. PETROV, R. P. PRIDOROGNY, V. V. DONCHENKO (Zaporozhye). **Computer modeling of shock interaction of the large bird with high bypass ratio turbofan fan blades**
8. R. P. PRIDOROZHNIY, A. P. ZINKOVSKIY (Zaporozhye, Kiev). **Natural frequency and shape modes of double-shrouded cooled turbine blades numerical-experimental research**
9. Yu. S. VOROBYOV, N. Yu. OVCHAROVA, P. N. KULAKOV, A. N. SKRITSKY, N. A. SKRITSKY (Kharkov, Zaporozhye). **Influence of turbomachine stationary vanes' maintenance conditions on reliability and life time**
10. Yu. S. VOROBYOV, T. Yu. BERLIZOVA (Kharkov). **Thermal-stress state of single-crystal cooled blade**
11. O. P. BADUN, Y. N. IVANOV (Dnepr). **Ball bearings special tests**
12. O. P. BADUN, Y. N. IVANOV (Dnepr). **Floating ring as a source of bending oscillation in rotor**
13. S. V. FILIPKOVSKY, L. A. FILIPKOVSKAJA (Kharkov). **Stability and bifurcations of vibrations of the elastic rotor with a disk on cantilevered end and ball bearings in the aircraft vibrating airframe**
14. A. I. TARASENKO A. A. TARASENKO (Nikolaev). **Substantiation of the design scheme for obtaining the orthogonal forms of torsional oscillations of stepped weighty shafts**
15. V. N. DOTSENKO, Y. H. LYKHOSHERST (Kharkov). **Dynamic model of axial-piston pump**
16. R. TURNA, V. CHYGRYN, D. ZINCHENKO, A. BELOGUB (Kharkov). **Natural oscillations frequencies of hydraulic accumulator elements simulation**
17. V. N. MEL'NICK, G. V. BOIKO (Kiyv). **Auto-compensation of diffraction phenomenon in the gyro-stabilized platform sensing element using the Petrov double-channel principle**
18. V. V. KARACHUN, S. V. FESENKO (Kiev). **Diffraction of sound waves on cross elastic hinge of gyroscope suspension**

19. E. M. MESHА, A. D. TOKARIEV, A. Y. DUDKA (Sumy). **Analysis of noise phenomena in the work of the cycle air heating system in the GPU gas turbine and possible methods of their solution**
20. I. IGUMENTSEV, O. PROKOPENKO (Kharkov). **Magnetic induction in the gyro with an electric charge**
21. IE. S. MENIAILOV, K. M. UGRYUMOVA, S. V. CHERNYSH, A. P. MAZURKOV, M. L. UGRYUMOV, A. N. KHUSTOCHKA (Kharkov). **Application of methods of computational intelligence for solving direct tasks of design calculation of dimensional chains under conditions of parametric a priori uncertainty**
22. U. A. GUSEV (Kharkov). **High-temperature film strain gauge**

September 6

Morning Meeting of Section

PISTON COMBUSTION ENGINES

September 6, 9⁰⁰ – 13⁰⁰

Chairmen: **I. V. Parsadanov**, Dr. Eng. (NTU “KhPI”, Kharkov);
A. P. Strokov, Dr. Eng. (KPU, Zaporozhye);
A. B. Bogayevskiy (KhNUAH, Харьков).
 Secretary: **V. O. Khyzhniak** (NTU “KhPI”, Kharkov).

1. R. N. RADCHENKO, N. S. BOHDANOV, N. I. RADCHENKO, A. A. ANDREEV (Nikolaev). **The use of heat supply potential of marine low speed diesel by ejector thermotrasnsformer for cyclic air cooling on rout line**
2. R. N. RADCHENKO, N. S. BOHDANOV, N. I. RADCHENKO, A. A. ANDREEV (Nikolaev). **Realization of heat supply potential of marine low speed diesel by absorption litiumbromide thermo-trasnsformer for cooling of cyclic air**
3. M. R. TKACH, B. G. TIMOCHEVSKIY, S. M. DOCENKO, Y. N. GALINKIN, D. O. SHALAPKO (Nikolaev). **Utilization of secondary heat energy of marine low speed engine which uses alternative fuel**
4. M. R. TKACH, B. G. TIMOCHEVSKIY, O. S. MITROFANOV, A. Yu. PROSKURIN, A. S. POZNANSKIY (Nikolaev). **Specifics of combustion process simulation for piston engines, which operate with the synthesis-gas 5 additions**

5. O. K. CHEREDNICHENKO (Nikolaev). **Increase of efficiency of ship power plants of gas carriers with application of thermo-chemical technologies**
6. E. V. BELOUSOV, V. P. SAVCHUK, I. V. GRITSUK, T. P. BELOUSOVA (Kherson). **Organization of internal mixture formation in ship low-speed gas diesels**
7. A. P. MARCHENKO, I. V. PARSADANOV, A. V. SAVCHENKO, I. M. KARYAGIN (Kharkov). **Influence of fuel system parameters on indicators of diesel while working on a water-fuel emulsion**
8. E. M. POLOVINKA, I. I. TKACH (Nikolaev). **Influence of the air supplying conditions on the fuel-air mixture injection characteristics by the marine middle-speed diesel engine fuel system**
9. V. G. ZARENBIN, T. N. KOLESNIKOVA (Dnepr). **To calculation of gas flow through ring seal seals with regular dynamics of piston rings**
10. A. V. TRINOV, V. V. KOROSTICHENKO, R. Yu. BUGAYTSOV (Kharkov). **Constructions for optimization heat-influenced state cylinder machine of the five dimensional diesel**
11. A. V. GRITSUK, I. S. REVELYUK, D. V. LEVCHENKO (Kharkov). **Method of experimental and numerical determination of crankshaft throw stiffness**
12. I. V. PARSADANOV, V. O. KHYZHNIAK, I. V. RYKOVA (Kharkov). **The substantiation of the selection of the form of the combustion chamber for using catalytic coating on the piston surface**
13. V. A. KUZHNETSOV (Odessa). **Diagnostics of small-speed engines**

Morning Meeting of Section

ENGINES AND POWER PLANTS FOR SPACE ROCKET ENGINEERING

September 6, 9⁰⁰ – 13⁰⁰

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

1. Yu. A. ULITENKO (Zaporozhye). **Space-transport system perfection criterion estimation at preliminary designing**

2. N. G. SHULZHENKO, B. F. ZAYTSEV, A. V. ASAENOK, T. V. PROTASOVA, D. V. KLYMENKO, I. F. LARIONOV, D. V. AKIMOV (Kharkov). **Dynamics of rocket dome separation system elements**
3. N. DRON', A. PASHKOV, L. DUBOVIK (Dnepr). **Research of the capability of stabilization on the atmospheric site de-orbit the nonfunctioning spacecrafts and objects from low Earth orbits**
4. B. B. GOLOVKO, A. S. HYZHNYAK (Kharkov). **Retrospective analysis of solid-fuel rocket engines development for short-distance "air-to-air" controlled rockets**
5. V. V. ROGULIN, A. O. OLEYNIK (Dnepr, Kiev). **Perspectives of 3D additive manufacturing technology for solid fuel rocket engines**
6. V. S. HUDRAMOVICH (Dnepr). **Contact interactions of the rocket engine structure elements under local loading**
7. O. V. PILIPENKO, O. O. PROKOPCHUK, S. I. DOLGOPOLOV, N. V. KHORIAK, O. D. NIKOLAYEV, V. YU. PISARENKO, V. N. KOVALENKO (Dnepr). **Mathematical modeling and stability analysis of low-frequency processes at main liquid-propellant rocket engine in an oxidizer rich staged combustion cycle**
8. E. K. MAHDIN, V. V. OGLIKH, A. B. ROZLIVAN (Dnepr). **Solid-propellant propulsion system of orientation and stabilization of discrete action for control of space objects**
9. V. V. OGLIKH, H. E. TOLOCHYANTS, N. S. MIKHAYLOV (Dnepr). **Intraballistic characteristics determination of microimpulse solid propellant rocket motor with operation time less 0.1 s**
10. A. N. KOVALENKO, A. V. PAVLOV, Y. V. BLISHUN, A. A. OSETSKAYA (Днепр). **Experimental research of mixing parameters for the liquid-propellant rocket engine of 400 N thrust**

Evening Meeting of Section

THEORY AND OPERATION PROCESSES

September 6, 14⁰⁰ – 19⁰⁰

Chairmen: **D. A. Dolmatov**, Dr. Eng. (KHAI, Kharkov);
M. M. Mitrakhovych, Dr. Eng. (NAU, Kiev);
M. R. Tkach, Dr. Eng. (NUSh, Nikolaev).
Secretary: **F. G. Sorogin** (KHAI, Kharkov).

1. O. V. KISLOV, N. V. PIZHANKOVA (Kharkov). **Converted gas turbine engine with compressor air bled to free turbine**

2. O. V. KISLOV, N. V. PIZHANKOVA (Kharkov). **Gas turbine power plant with air bleed to free turbine work features**
3. F. G. SOROGIN (Zaporozhye). **The gas-turbine drives energy factors calculation method**
4. F. G. SOROGIN (Zaporozhye). **Turbine engine energetic indexes determination on the base of climatic performances**
5. V. A. SHKABURA (Kharkov). **Results of analysis of turbine zone and compressor zone of turbo-compressor with general impeller for small gas turbine engines**
6. H. S. BARYSHEVA, T. V. KULIK (Kharkov). **GTE multistage axial compressor blades erosion modeling**
7. V. V. KOROBKO, O. O. MOSKOVKO, G. B. MOSTIPANENKO, S. I. SERBIN (Nikolaev). **Research of bi-directional pulse turbine operation in the cavity of thermoacoustic machine**
8. O. S. MYTROFANOV, A. Y. PROSKURIN, A. S. POZNANSKYI (Nikolaev). **Efficiency of ethanol thermochemical transformation in power plant with 1-cylinder 4-stroke engine 6,8/5,4**
9. N. A. BORISOV, O. G. GOLUBKOV, V. P. PARAFIYNYK, O. N. SHCHERBAKOV (Sumy). **Oil system of a gas turbine compressor unit as a source of heat utilization to increase its effectiveness**
10. DOUAISSIA OMAR HADJ AISSA, T. P. MYKHAILENKO, D. A. NEMCHENKO, I. I. PETUKHOV (Kharkov). **Fluid flows simulation in the bearing chamber of GTE**
11. I. I. PETUKHOV, V. N. SYRY, Y. V. SHAKHOV (Kharkov). **Jet equipment in kerosene drying and cooling technology**
12. A. N. SUPENKO, V. N. SIRENKO, V. V. ZAVETUKHA, V. Y. SHAVTISOV (Dnepr). **Universal gas-dynamic model stand**

Evening Meeting of Section

ENGINES AND POWER PLANTS FOR SPACE ROCKET ENGINEERING

September 6, 14⁰⁰ – 19⁰⁰

Chairmen: **K. V. Bezruchko**, Dr. Eng. (KhAI, Kharkov);
V. P. Frolov, Dr. Eng. (Yuzhnoye DO, Dnepr).
 Secretary: **A. I. Tsaglov** (KhAI, Kharkov).

1. V. I. KONOKH, I. I. KALINICHENKO, I. N. GORDIETS, A. V. SHPAK (Dnepr). **Parameters optimization and operability limits determination of the bipropellant pneumo-pump unit of a spacecraft**

2. V. S. REVA, K. N. ZEMLYANY, V. P. FROLOV, O. V. GAVRILOV, K. V. BEZRUCHKO (Dnepr). **Reliability and operational stability providing for ground-based launch complex using independent supply sources**
3. Y. A. ZHULAY, N. A. DZOZ (Dnepr). **Influence of generator parameters on energy characteristics of discrete-pulse fluid flow**
4. A. I. TSAGLOV, A. V. LOYAN, N. N. KOSHELEV, O. P. RUBALOV (Kharkov). **Results of emitter for microcathodes testing**
5. Ya. N. KULESHA, M. Yu. TITOV, A. V. LOYAN (Kharkov). **Development and experimental research of a stationary plasma thruster of 200 W power**
6. M. Yu. TITOV, A. V. LOYAN, E. I. ISCHENKO (Kharkov). **Electromagnetic valve calculation using numerical simulation**
7. A. N. KHAUSTOVA (Kharkov). **Improved method of OESSC and SPT DC erosion rate diagnostics methods**
8. A. N. KHAUSTOVA, A. V. LOYAN, YE. I. ISCHENKO (Kharkov). **Research of SPT 1.5 KW DC erosion rate in time with OESSC**
9. A. N. KHAUSTOVA, A. V. LOYAN, O. P. RIBALOV (Kharkov). **Investigation of 1.5 KW SPT DC sputtering products radiation registration region**

September 7

Morning Meeting of Section

TECHNOLOGY

September 7, 9⁰⁰ – 13⁰⁰

Chairmen: **N. E. Kalinina**, Dr. Eng. (DGU, Dnepropetrovsk);
V. F. Sorokin, Dr. Eng. (KhAI, Kharkov).
 Secretary: **V. V. Tretyak**, PhD (KhAI, Kharkov).

1. N. A. LYSENKO, V. V. KLOCHIHIN, V. V. NAUMYK (Zaporozhye). **Structure and properties of castings of turbines casing parts from nickel alloys after hot isostatic pressing**
2. A. A. PEDASH, N. A. LYSENKO, V. V. KLOCHIKHIN, V. G. SHYLO (Zaporozhye). **Structure and properties of specimens made from INCONEL 718 by selective laser melting**

3. V. A. BOGUSLAYEV, P. D. ZHEMANJUK, A. V. OVCHINNIKOV, Z. V. LEKHOVITSER, I. O. BYKOV (Zaporozhye). **Application of titanium powders for production of gas-turbine engine components by powder metallurgy techniques**
4. I. A. GUSAROVA, A. M. POTAPOV, V. P. SOLNTSEV, T. A. SOLNTSEVA, K. N. PETRASH, V. A. NAZARENKO, G. A. FROLOV, T. A. MANKO (Kiev, Dnepr). **Nickel-based powder alloys and the technology of heat-resistant structures of returned aerospacecrafts development**
5. N. E. KALININA, T. V. KALININ, M. V. GREKOVA, T. V. NOSOVA, M. V. GUCHENKOV (Dnepr). **Charge materials influence on grinding of aluminium structure by dispersed compositions**
6. V. V. KLOCHIKHIN, N. A. LYSENKO, E. V. MILONIN, Y. A. BERESTOVOY V. V. NAUMIK (Zaporozhye). **Investigation of the quality of seed material for monocrystalline casts**
7. A. V. OVCHINNIKOV, Y. F. BASOV, I. A. PETRIK, A. A. SKREBTSOV, Y. A. MARCHENKO (Zaporozhye). **Implementation of welding additive manufacturing processes in design and manufacture of aircraft gas turbine engine parts**
8. V. D. SOTNIKOV, S. V. HUDYAKOV, V. V. TRETYAK, N. I. TSIVINDA (Kharkov). **Specifics of group technological processes for aircraft engine parts manufacturing**
9. Y. V. ORSA, V. M. NESTERENKOV, Y. A. MARCHENKO, I. A. PETRIK, P. D. ZHEMANYUK, A. A. SREBTSOV (Zaporozhye). **Process design for centrifugal compressor diffuser manufacturing by electron-beam welding**
10. V. F. MOZGOVOJ, A. Y. KACHAN, V. A. PANASENKO, M. K. BIRYKH (Zaporozhye) **Features of composite noise-protection panels machining using NC machine tools**
11. G. V. SNIZHNOI, V. L. SNIZHNOI (Zaporozhye). **Model nucleation, development and disappearance of ϵ -martensite during plastic deformation of austenitic Fe-Cr-Ni steel**
12. I. V. SKORCHENKO, A. I. DOLMATOV, M. A. KURIN (Kharkov). **Definition of the field of velocity in the cut layer during the hard turning process**
13. E. V. FOJTU, V. F. SOROKIN, E. A. KRYZHIVETS, V. V. KOMBAROV (Kharkov). **Adaptive control of high-speed machining modes of complex shape parts**
14. V. F. SOROKIN, V. V. KOMBAROV, A. D. POPOV (Kharkov). **Synthesis of tool paths for connecting circles with conjugation by curvature**

Morning Meeting of Section
PISTON COMBUSTION ENGINES

September 7, 9⁰⁰ – 13⁰⁰

Chairmen: **A. A. Prokhorenko**, Dr. Eng. (NTU “KhPI”, Kharkov);
V. G. Zarenbin, Dr. Eng. (PGASA, Dnepr);
V. A. Pylev, Dr. Eng. (NTU “KhPI”, Kharkov).
Secretary: **S. S. Kravchenko**, PhD (NTU “KhPI”, Kharkov).

1. **A. M. REDZYUK, S. A. KOVALEV (Kiev). Development of gas engines with forced ignition on the basis of the diesel D-120-45 self-propelled chassis SSH-2540**
2. **I. MORDIVINTSEVA, A. KLIMENKO, R. ARYAN, O. U. LINKOV, V. PYILEV (Kharkov). Features of the determination of border conditions of non-stationary problems of heat conductivity of diesel piston**
3. **O. U. LINKOV, S. O. KRAVCHENKO, V. V. PYLYOV, A. V. FATEEV, D. V. BEDNYN (Kharkov). Improvement of the heat-suppressed status of the cylinder head of the medium-speed diesel**
4. **R. ARYAN, H. HOTAIT, I. O. MORDIVINTSEVA, O. U. LINKOV, V. A. PYLYOV (Kharkov). Influence of selections in the zone of the edge of the piston combustion chamber on its heat tension and strength resources**
5. **V. V. DEMIROV, I. M. HVOZDEVA (Odessa). Improvement problems of diesel-generator sets control and diagnostic systems**
6. **A. A. LISOVAL, A. V. VERBOVSKIY, V. V. SHTRIBETS (Kiev). Effect of setting parameters of speeds PID regulator of diesel for fuel consumption**
7. **A. B. BOGAYEVSKY, A. O. PROKHORENKO (Kharkov). Operating angle of fuel injection of locomotive transport diesel generator**
8. **A. A. PROKHORENKO, S. S. KRAVCHENKO, I. N. KARYAGIN, E. G. VOVK, P. I DUMENKO (Kharkov, Riga). Development of the diesel crankshaft rotation universal electronic governor**
9. **A. P. POLIVYANCHUK, A. I. KASLIN, A. P. STROKOV, M. F. SMIRNY (Kharkov). Determination of the mathematical model of the influence of the diesel operation mode on disperse particles in exhaust gases**

10. A. E. KHRULEV, Y. V. KOCHURENKO (Moskva, Odessa). **Method for determining the cause of the ice failure for severe damages in operation**
11. L. P. KLYMENKO, V. I. ANDRIEIEV, O. F. PRISHCHEPOV, V. V. SHUHAI, O. I. SLUCHAK (Nikolaev). **Modification of construction and composite mixture in casting forms for cylinders of ice**
12. V. V. BELOZEROV, I. B. COSSACK, A. K. OLEJNIK, S. A. KRAVCHENKO (Kharkov). **The influence of microarc oxidation on friction characteristics and wear of the interface materials, the conjugation the crankshaft-liner of the engines type D100 and D80**
13. R. A. VARBANETS, A. V. ERIGANOV, E. I. ZHOLTIKOV, V. S. GUBIN (Odessa). **POWELL'64 minimization in the tasks of marine diesel engines monitoring**
14. O. I. KYRYLASH, V. YE. KOSTIUK, R. A. VARBANETS (Kharkiv, Odesa). **Numerical investigation of the indicator channel influence on the pressure diagram of marine diesel engines**
15. R. A. VARBANETS, V. I. KYRNAC, N. I. ALEKSANDROVSKAYA, N. P. BULGAKOV (Odessa). **Transport diesels monitoring during an operation**
16. Y. M. KUCHERENKO, R. A. VARBANETS, V. O. MAULEVYCH (Odessa). **Definition of marine diesel engines effective parameters**
17. R. A. VARBANETS, E. I. ZHOLTIKOV, K. I. KHLEVNOY (Odessa). **Data synchronization in the tasks of transport diesels monitoring**
18. O. V. YERYGANOV, R. A. VARBANETS (Odessa). **Monitoring of working process of ships' diesel engines in case of lack of data**

Evening Meeting of Section

TECHNOLOGY

September 7, 14⁰⁰ – 19⁰⁰

Chairmen: **A. I. Dolmatov**, Dr. Eng. (KhAI, Kharkov);
A. Ya. Kachan, Dr. Eng. (ZNTU, Zaporozhye);
Secretary: **E. A. Krizhevets** (KhAI, Kharkov).

1. **K. A. DANKO, A. I. DOLMATOV, V. M. LOPATA** (Kharkov, Kiev). **Study of the properties of coatings received by high velocity oxy-fuel spraying by two-chamber burner**
2. **O. V. SHORINOV, S. E. MARKOVYCH, A. I. DOLMATOV** (Kharkov). **Design of aeronautical units case-shaped part restoration process using cold spraying**
3. **Ye. O. OMELCHENKO, S. Ye. MARKOVICH, A. I. DOLMATOV** (Kharkov). **Development and manufacturing of high-temperature high pressure air heater for cold gas-dynamic spraying**
4. **V. V. TRETYAK, A. V. ONOPCHENKO, Y. A. NEVESHKIN, I. A. KOVALCHUK** (Kharkov). **Three-dimensional workpiece parameters determining in «SPRUT EXPRO» envelope for impulse machining**
5. **V. V. TRETYAK** (Kharkov). **Specifics of the analogue checking procedure for sheet article manufactured using impulse technologies**
6. **V. V. TRETYAK, A. S. FEDOROVA, V. F. SOROKIN, K. V. BONDAREVA** (Kharkov). **Bottoms stamping tool**
7. **V. N. VORONIN, V. Ye. ZAYTSEV, V. Yu. KOTSUBA, V. V. TRETYAK** (Kharkov). **Impulse stamping parameters determination for welded titanium workpieces**
8. **V. V. TRETYAK, N. F. SAVCHENKO, S. A. STADNIK** (Kharkov). **Specifics of the impulse load parameters correction for complex sheet articles**
9. **A. S. MIHNENKO, A. N. VERSTYUK, V. L. ANOSOV, V. V. TRETYAK, A. V. ONOPCHENKO** (Kharkov). **New functional possibilities of CAD systems “KOMPAS” and “VERTICAL” and their realization in planning of perspective technologies**
10. **V. V. TRETYAK, O. V. CHERNISHOV, D. G. MUZICHKA, T. V. LUKAN** (Kharkiv). **Problems of structural synthesis of technological processes and their decision in modern CAD systems**

11. M. A. GOLOVANOVA, N. A. MOROZOVA, V. V. TRETYAK (Kharkov). **Problems and possibilities of the use of algorithms of pattern recognition in consulting models**
12. A. V. ONOPCHENKO (Kharkov). **Possibilities of the use of method of addressing in impulsive treatment of metals**
13. N. P. SINYAEVA, L. O. OMELYANCHIK, L. P. NEKRASOVA, O. V. LUGANSKAYA (Moscow, Zaporozhye). **Spectrophotometric determination of nickel, manganese, cobalt in VPR-4 solder using a single sample**
14. V. A. BOGUSLAEV, P. D. ZHEMANYUK, V. L. GRESHTA, E. G. SOTNIKOV, Z. V. LEKHOVITSER, D. V. TKACH, L. P. STEPANOVA, A. V. KLIMOV (Zaporozhye). **Research of heat-resistant heat protective sealing coatings when alloying them with combined ligatures**
15. V. S. YEFANOV, I. A. PETRIK, A. N. PROKOPENKO, A. V. OVCHINNIKOV (Zaporozhye). **Multi-layer heat-resistant coating deposition on turbine blades exposed to erosion-corrosion**

Evening Meeting of Section

THEORY AND OPERATION PROCESSES

September 7, 14⁰⁰ – 19⁰⁰

Chairmen: **A. V. Rusanov**, Dr. Eng. (IPMash, Kharkov);
 B. G. Timoshevsky, Dr. Eng. (NUSh, Nikolaev);
 V. I. Tymoshenko, NASU Cor. Member (Dnepr).
 Secretary: **T. P. Mychailenko** (KhAI, Kharkov).

1. V. I. TYMOSHENKO, V. P. GALINSKY, A. Ye. DESHKO (Dnepr). **Conceptual issues of mathematical modeling processes of aero-gas-thermodynamics of a hypersonic vehicle equipment with a direct air-react engine**
2. Ya. V. DVIRNYK, D. V. PAVLENKO (Zaporozhye). **Laws of multiphase flow behavior in the helicopter gas turbine engine inlet duct**
3. M. I. KISLYAK, M. M. MITRAKHOVICH (Zaporozhye). **Investigation of aero-acoustic efficiency of the fan profile of the turbojet engine with the using ANSYS**
4. V. V. KOMAROV, M. M. MITRAKHOVYCH (Zaporozhye).

- Digital simulation of air intake duct geometry influence in “counter-rotating air blades – ring-type subsonic intake duct” system of the turboprop aircraft engine on flow non-uniformity at compressor inlet via ANSYS CFX software**
5. Yu. M. TERESHCHENKO, K. V. DOROSHENKO, I. A. LASTIVKA, I. P. KUDZINOVSKA (Kiev). **Gas-dynamic effect by annular blowing on flow in axial compressor stage**
 6. V. N. ZHURAVLEV, V. I. PISMENNYI (Zaporozhye). **Processes of self-organizing of rotational structures in the problem of the turbine engine compressor efficiency analysis**
 7. V. V. NAYCHUK, V. N. FESENKO (Sumy). **Increase in productivity of piston compressors by resonant boost method**
 8. S. V. YERSHOV, V. A. YAKOVLEV, M. N. GRYZUN (Kharkov). **Numerical simulation of the laminar-turbulent transition in a high-loaded transonic turbine cascade**
 9. N. STAKHNYAK, S. RIZNYK, S. KHOMYLEV, A. KARPENKO (Zaporozhye). **Numerical modelling of a flow in the multistage low pressure turbine**
 10. M. PIROGOV (Kharkov). **Turbomachine (turbine) characteristics approximation at turbine engine modeling**
 11. D. A. DOLMATOV (Kharkov). **Specifics of stimulated combustion simulation at high chemical activity of the substance**
 12. D. A. DOLMATOV (Kharkov). **Physical-chemical processes nearby kerosene droplet deforming surface**
 13. D. A. DOLMATOV (Kharkov). **Charge stimulation of light hydrocarbons’ high-temperature combustion**
 14. D. A. DOLMATOV, D. M. HAJIVAND (Kharkov). **Small-size droplets’ high-temperature combustion in aircraft combustion chambers**

September 8

Morning Meeting of Section

AUTOMATIC CONTROL SYSTEMS AND DIAGNOSTICS

September 8, 9⁰⁰ – 13⁰⁰

Chairmen: **S. A. Dmitriyev**, Dr. Eng. (NAU, Kiev);
V. F. Mirgorod, Dr. Eng. (Element, Odessa).
Secretary: **F. F. Sirenko**, PhD (KhAI, Kharkov).

1. **S. S. TOVKACH (Kyiv). Wireless technologies of information exchange in the adaptive control systems of aircraft engines**
2. **V. V. NERUBASKIY, I. K. LOPASHCHENKO (Odessa). The future of the checkout equipment for the family of ECU developed by JSC “ELEMENT”**
3. **V. F. MIRGOROD, E. V. DERENG (Odessa). Modeling of the process of gas turbine engines part-load characteristics deformation during long-term operation**
4. **V. F. MIRGOROD (Odessa). State equations solution for time-scale similar dynamic systems**
5. **S. V. YEPIFANOV, R. L. ZELENSKII (Kharkov). Dynamic properties of pneumatic capacities estimation using linearized equations**
6. **R. L. ZELENSKII, S. V. YEPIFANOV, F. F. SIRENKO, S. N. PASICHNIK (Kharkov). All-mode fast-response model of three-spool turbine engine with approximated coefficients of linear dynamic model**
7. **V. V. NERUBASKIY, N. P. VOLOSHINA (Odessa). FADEC – terminology, history and modern state**
8. **V. F. MYRHOROD, I. M. HVOZDEVA (Odessa). Investigation of characteristics and opportunities of typical regulators with unknowledge index of integro-differential transformation**
9. **A. G. BURYACHENKO, G. S. RANCHENKO, D. S. BURUNOV (Odessa). Modification of the engine AI-450M regulator standard model – essence, procedure and results**
10. **A. S. HOLTSOV, I. I. REDIN (Kharkov). Adaptive control of the unmanned aircraft engine thrust**

11. S. DMITRIEV, O. POPOV, O. YAKUSHENKO, V. POTAPOV, O. PASHUK (Kiev). **Gas turbine engines diagnosing using the methods of pattern recognition**
12. S. V. YENCHEV (Kiev). **Wavenet-technologies in aircraft turbine engine surge identification**
13. V. F. MYRHOROD, I. M. HVOZDEVA (Odessa). **Improvement of trend analysis and monitoring methods for turbine engines technical state analysis**
14. O. REVA, SH. NASIROV, V. LYPCHANSKII (Kiev, Baku, Kropivnickiy). **Strategy of the optimum foresight in determination of air traffic controller's attitude towards the danger of characteristic errors**
15. O. M. REVA, S. P. BORSUK, V. O. LIPCHANSKII (Kiev, Kropivnickiy). **Algorithm for acceptability level ergonomic estimation of operator-instructor personally-oriented air traffic control students training**
16. I. V. SHOSTAK, A. P. SOBCHAK, A. S. OGYLKO (Kharkov). **Synthesis of control systems for virtual instrumental manufacturing on the base of 3D robotic complexes**

PLENARY MEETING

September 8, 18⁰⁰ – 19⁰⁰

1. **Reports of section chairmen about the meetings.**
2. **Summarizing the work of XXII International Congress of Propulsion Engineering.**
3. **Approving the Congress resolution.**

**Close
of the XXII-th International Congress of Propulsion Engineering.**