



<b>Name</b>	Sergiy Yepifanov
<b>Position, Department/Faculty</b>	Head of Engine Design Department
<b>Academic Degree, Academic Title</b>	Doctor of Science, Engineering; Professor
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<b>ResearchGate:</b>	<a href="https://www.researchgate.net/profile/Sergiy-Yepifanov">https://www.researchgate.net/profile/Sergiy-Yepifanov</a>

## EDUCATION:

### Basic education (university, major, year of graduation):

Mechanical engineer of aircraft engines with a first-class honours degree, *Kharkov Aviation Institute, Kharkov, Ukraine (USSR)*, (12.02.1974)

### Postgraduate/Doctoral studies:

*Kharkov Aviation Institute, Kharkov, Ukraine (USSR)*, (27.03.1981)

### Doctor of Science degree:

*National Aerospace University, Kharkiv, Ukraine*, (8.06.2001)

## WORK EXPERIENCE:

### Professional Career (Workplace, Years, Position):

National Aerospace University (until 2000 - Kharkiv Aviation Institute), Ukraine:

Engineer (1974-1975)

Senior engineer (1975-1976)

Junior research assistant (1976-1977)

Post-graduate student (1977-1979)

Senior staff scientist (1980-1983)

Doctor's degree student (1989-1992)

Chief scientist (1992-2001)

### Teaching Experience:

National Aerospace University (until 2000 - Kharkiv Aviation Institute), Ukraine:

Assistant (1983-1984)

Senior lecturer (1984-1989)

Full professor and chief of the Department of Aircraft Engines (2001–Current)

### Experience in International or National Projects:

Grant Horizon 2020 284859 Aero-UA

## RESEARCH ACTIVITIES:

### Main Research Areas:

Gas turbine engines  
Automatic control  
Strength life-time analysis  
System dynamics  
System identification  
Pattern recognition  
Parametric diagnostics

### Number of Publications (Scopus, WoS, others):

Scopus – 40

Others - 435

### Monographs:

Synthesis of control and diagnostic systems for gas turbine engines : monograph / S. Yepifanov, B. Kuznetsov, I. Bohayenko, G. Grabovskii, V. Dyukov, S. Kuzmenko, N. Rumshyn, A. Sametskii. – Kyiv : Technika, 1998. – 312 p. – ISBN 966-575-121-2.

Design and development concepts for combat training aircraft engines: monograph / S. Yepifanov, I. Kravchenko, V. Liginov. – Kharkiv : KhAI, 2017. – 388 p. – ISBN 978-966-2906-70-7.

Advanced Nonlinear Modeling of Gas Turbine Dynamics / R. L. Zelenskyi, S. V. Yepifanov, I. Loboda // Aerospace Engineering : [collective monog.] / ed. by G. Dekoulis. – 2019. – 19 p.

Modeling of Turbomachine for control and Diagnostic Applications : monograph / I. Loboda, S. Yepifanov. – Published in London, United Kingdom, 2020. – 100 p.

A New Approach for Model Developing to Estimate Unmeasured Parameters in an Engine Lifetime Monitoring System : monograph / C. Maravillia, S. Yepifanov. – London, 2020. – P. 59–76.

Gas Turbine Simulation Taking into Account Dynamics of Gas Capacities : monograph / S. Yepifanov, R. Zelenskyi. – London, 2020. – P. 31–57.

Turbine Engine Starting : monograph / S. Yepifanov, F. Sirenko. – London, 2020. – P. 13–30.

### Textbooks:

Heavy Single-Rotor Helicopters and Their Transmissions. Design Background [Electronic resource] : [guide-book]. Pt. 1 / A. G. Grebenikov, A. M. Gumennyi, A. I. Dolmatov, V. N. Dotsenko, Y. V. Dyachenko, S. V. Epyfanov, Y. S. Karpov, E. D. Kovalev, L. I. Losev, S. E. Markovich, V. T. Sikulskiy, S. V. Trubaev, V. A. Udoenko, V. V. Usik, V. A. Urbanowich, M. N. Fedotov ; ed. by V. S. Krivtsov. – Kharkiv : KhAI, 2017. – 345 p. – Access mode: [http://library.khai.edu/library/fulltexts/metod/Heavy\\_Single-](http://library.khai.edu/library/fulltexts/metod/Heavy_Single-Rotor_Helicopters_And_Their_Transmissions_Design_Background_Part1.pdf)

[Rotor\\_Helicopters\\_And\\_Their\\_Transmissions\\_Design\\_Background\\_Part1.pdf](http://library.khai.edu/library/fulltexts/metod/Heavy_Single-Rotor_Helicopters_And_Their_Transmissions_Design_Background_Part1.pdf) (28.03.2019).

Heavy Single-Rotor Helicopters and Their Transmissions. Design Background [Electronic resource] : [guide-book]. Pt. 2 / A. G. Grebenikov, A. M. Gumennyi, A. I. Dolmatov, V. N. Dotsenko, Y. V. Dyachenko, S. V. Epyfanov, Y. S. Karpov, E. D. Kovalev, L. I. Losev, S. E. Markovich, V. T. Sikulskiy, S. V. Trubaev, V. A. Udoenko, V. V. Usik, V. A. Urbanowich, M. N. Fedotov ; ed. by V. S. Krivtsov. – Kharkiv : KhAI, 2017. – 413 p. – Access mode: [http://library.khai.edu/library/fulltexts/metod/Heavy\\_Single-](http://library.khai.edu/library/fulltexts/metod/Heavy_Single-Rotor_Helicopters_And_Their_Transmissions_Design_Background_Part2.pdf)

[Rotor\\_Helicopters\\_And\\_Their\\_Transmissions\\_Design\\_Background\\_Part2.pdf](http://library.khai.edu/library/fulltexts/metod/Heavy_Single-Rotor_Helicopters_And_Their_Transmissions_Design_Background_Part2.pdf) (28.03.2019).

Aircraft fuel systems (rus.): textbook / S. Yepifanov, A. Ryzhenko, R. Tsukanov. – Kharkiv : KhAI,

2018. – 558 p. – ISBN 978-966-662-600-7.

Design of heavy single-wing helicopters and transmissions : textbook . Part 1 / O. Grebenikov, A. Gumennyi, A. Dolmatov, V. Dotsenko, Yu. Dyachenko, S. Yepifanov, Ya. Karpov, Ye. Kovalyov, L. Losev, S. Markovych, V. Sikulskii, S. Trubayev, V. Udovenko, V. Usik, V. Urbanovych, M. Fedotov. – Kharkiv : KhAI, 2018. – 361 p. – [http://library.khai.edu/library/fulltexts/metod/Grebenikov\\_Proektyvanya\\_1.pdf](http://library.khai.edu/library/fulltexts/metod/Grebenikov_Proektyvanya_1.pdf) (28.03.2019).

Design of heavy single-wing helicopters and transmissions : textbook Part 2 / O. Grebenikov, A. Gumennyi, A. Dolmatov, V. Dotsenko, Yu. Dyachenko, S. Yepifanov, Ya. Karpov, Ye. Kovalyov, L. Losev, S. Markovych, V. Sikulskii, S. Trubayev, V. Udovenko, V. Usik, V. Urbanovych, M. Fedotov. – Kharkiv : KhAI, 2018. – 462 p. – [http://library.khai.edu/library/fulltexts/metod/Grebenikov\\_Proektyvanya\\_2.pdf](http://library.khai.edu/library/fulltexts/metod/Grebenikov_Proektyvanya_2.pdf) (28.03.2019).

Yepifanov, S. Design of Aircraft Turbine Engines [Text] : textbook / S. V Yepifanov, V. S. Chygryn. — Kharkiv : National Aerospace University «Kharkiv Aviation Institute», 2021. — 320 p.

Aircraft fuel systems : textbook / S. Yepifanov, A. Ryzhenko, R. Tsukanov. – Kharkiv : KhAI, 2021. — 558 c.

Yepifanov, S. Design of Aircraft Turbine Engines (rus.) : textbook / S. V Yepifanov, V. S. Chygryn. – Nat. aerosp. univ. named after Zhkovskii «Kharkiv aviation institute», 2022. – 336 p.

#### **Participation in Scientific Conferences:**

More than 50 conferences in USSR, Ukraine, China, Korea, Greece, Great Britain, Norway, and USA.

## **TEACHING ACTIVITIES:**

#### **Courses Taught:**

Gas turbine engine design  
Gas turbine engine strength, and dynamics  
Aircraft piston engines  
On-ground application of aero-engines  
Gas turbine engine automatic control systems  
Gas turbine engines and power plants diagnostics  
Engine cooling systems and thermal stress

#### **Author Courses, Academic Programs:**

Engines of airplanes and helicopters  
Gas turbine engine automatic control systems  
Modelling in Aerospace Engineering  
Design of Engineering Experiment  
Life-time designing of aircraft engines and power plants

#### **Methodological Materials, Textbooks:**

Automation and control of aircraft gas turbine engines : textbook for laboratory work / S. Yepifanov, D. Symbirskii. – Kharkiv : KhAI, 1986. – 94 p.

Dialectics of mathematical modeling of gas turbine engines / D. Symbirskii, S. Yepifanov // Formation of a scientific worldview in the process of studying natural and technical sciences : method. recommendations. – Kyiv, 1987. – P. 38–47.

Optimization of the gas turbine disk mass using elements of computer-aided design systems : textbook / S. Yepifanov, Yu. Gusev, S. Kaplun, V. Nerubasskii. – Kharkiv : KhAI, 1990. – 33 p.

- Fuel supply and control system of a turbofan engine: textbook / S. Yepifanov, V. Sedristiy. – Kharkiv : KhAI, 1990. – 32 p.
- Calculation of the dynamic frequency of the first form of bending vibrations of a compressor or turbine blade and construction of a frequency diagram : textbook / Yu. Shoshin, S. Yepifanov, S. Sharkov. – Kharkiv : KhAI, 1992. – 24 p.
- Strength calculation of a compressor or turbine blade : textbook / Yu. Shoshin, S. Yepifanov, S. Sharkov. – Kharkiv : KhAI, 1993. – 32 p.
- Diagnostics of gas turbine engines using mathematical models: textbook / S. Yepifanov, I. Loboda, F. Muravchenko. – Kharkiv : KhAI, 1998. – 27 p.
- Internal combustion engine pistons: textbook / Yu. Gusev, S. Yepifanov. – Kharkiv : KhAI, 1998. – 28 p.
- Strength calculation of compressor and turbine disks: textbook / Yu. Shoshin, S. Yepifanov, F. Muravchenko. – Kharkiv : KhAI, 1998. – 28 p.
- Transient control system for a turbofan engine: textbook / F. Muravchenko, S. Yepifanov, A. Skripka, V. Sedristiy. – Kharkiv : KhAI, 1998. – 15 p.
- Internal Combustion Engine Pistons: A Textbook for Lab Workshop, Coursework, and Diploma Design / Yu. Gusev, S. Yepifanov, O. Bilohub. – Харьков : ХАИ, 1999. – 34 p.
- Calculation and analysis of reliability indicators for gas turbine engine diagnostics : textbook / I. Loboda, S. Yepifanov, Yu. Motora. – Kharkiv : KhAI, 1999. – 28 p.
- Connecting rods for internal combustion engines: a tutorial on lab work, coursework, and diploma design / Yu. Gusev, S. Yepifanov, O. Bilohub. – Kharkiv : KhAI, 1999. – 27 p.
- Automatic control system for a gas pumping unit engine: a tutorial for laboratory practical training / S. Yepifanov, R. Zelenskii, A. Skripka. – Kharkiv : KhAI, 2004. – 27 p.
- Modeling of automatic control systems of gas turbine engines and their dynamic elements: a tutorial on laboratory practical training / S. Yepifanov, D. Symbirskii, R. Zelenskii. – Kharkiv : KhAI, 2006. – 65 p.
- Strength calculation of compressor and turbine blades: tutorial / Yu. Shoshin, S. Yepifanov, R. Zelenskii. – Kharkiv : KhAI, 2006. – 28 p.
- Automatic control and protection system for a stationary gas turbine unit with pneumomechanical elements: textbook / S. Yepifanov, R. Zelenskii, A. Skripka. – Kharkiv : KhAI, 2006. – 22 p.
- Strength calculation of compressor and turbine disks: tutorial / Yu. Shoshin, S. Yepifanov, R. Zelenskii. – Kharkiv : KhAI, 2007. – 28 p.
- Systems of aircraft engines : tutorial / S. Bezuglii, S. Yepifanov, A. Skripka, B. Khmelik. – Kharkiv : KhAI, 2008. – 74 p.
- Calculation of the dynamic frequency of the first mode of bending vibrations of compressor and turbine blades: tutorial / Yu. Shoshin, S. Yepifanov, R. Zelenskii. – Kharkiv : KhAI, 2009. – 29 p.
- Design of aircraft power plant systems: lecture notes / S. Yepifanov, V. Pekhterev, A. Ryzhenko, R. Tsukanov, V. Shmyriov. – Kharkiv : KhAI, 2011. – 512 p.
- Major Units of Aircraft Gas Turbine Engines : tutorial / S. Yepifanov, Y. Shoshin, Y. Gusev. – Kharkiv : KhAI, 2013. – 101 p.
- Strength Analysis of Rotor Blade : tutorial / S. Yepifanov, Y. Shoshin, R. Zelenskyi. – Kharkov : KhAI, 2013. – 28 p.
- Afterburners and Exhaust Systems of Turbine Engines : tutorial / S. Yepifanov, Y. Shoshin, V. Chygryn. – Kharkiv : KhAI, 2014. – 32 p. – ISBN 978-966-662-366-2.
- Blade Bending Oscillation Analysis : tutorial / S. Yepifanov, Y. Shoshin, R. Zelenskyi. – Kharkiv : KhAI, 2014. – 24 p. – ISBN 978-966-662-367-9.
- Strength Analysis of Disc : tutorial / S. Yepifanov, Y. Shoshin, R. Zelenskyi. – Kharkiv : KhAI, 2014. – 28 p. – ISBN 978-966-662-345-7.
- Systems and Units of Aircraft Power Plants : synopsis / S. Bezuglyi, S. Yepifanov, R. Tsukanov. – Kharkiv : KhAI, 2015. – 100 p. – ISBN 978-966-662-413-3.
- Strength and life-time of aircraft gas turbine engine parts: manual for laboratory practicum /

S. Yepifanov, D. Symbirskii, Ye. Martseniuk. – Kharkiv : KhAI, 2017. – 76 p. – ISBN 978-966-662-538-3.

Aircraft Propellers [Electronic resource] : tutorial / S. Yepifanov, A. Garkucha. – Kharkiv : KhAI, 2017. – 60 p. – Access mode: [http://library.khai.edu/library/fulltexts/metod/Propellers\\_all.pdf](http://library.khai.edu/library/fulltexts/metod/Propellers_all.pdf) (28.03.2019).

Calculation of thermal and thermal stress state of cooled turbine blades: Textbook on coursework and diploma design / S. Yepifanov, Ye. Martseniuk. – Kharkiv : KhAI, 2020. – 64 p.

Yepifanov, S. Simulation of Aircraft Gas Turbine Automatic Control Systems and Their Elements : tutorial / S. Yepifanov, R. Zelenskyi. – Kharkiv : KhAI, 2020. – 64 p.

Kravchenko, I. Aircraft propellers : tutorial / I. Kravchenko, S. Yepifanov, A. Garkucha. – Kharkiv : National aerospace university «Kharkiv aviation institute», 2020. – 64 p.

Yepifanov, S. Cooled parts design : tutorial / S. Yepifanov, Ye. Martseniuk, I. Kravchenko. – Kharkiv : KhAI, 2022. – 88 p.

Design and systems of the AL-31F turbofan : tutorial / S. Yepifanov, V. Rublyov, N. Otreshkop, R. Rublyova ; by general edition of S. Yepifanov. – Kharkiv : KhAI, 2025. – 224 p.

## GRANTS AND PROJECTS:

### Participation in International and National Projects:

Grant Horizon 2020 284859 Aero-UA

Grant Horizon 2020 785493 «AMBEC»

Grant Horizon 2020 831848 «DeNOx»

### Grants, Scholarships, Academic Mobility Programs:

## PROFESSIONAL ACHIEVEMENTS AND AWARDS:

### Honorary Titles:

Honored Worker of Science and Engineering of Ukraine (2009)

Academician of Engineering Academy of Ukraine (2020)

### Distinctions, Awards, Prizes:

Winner of the professional excellence competition "Ikars of KhAI" in the nomination "Best Research Fellow" (1999)

Winner of the professional excellence competition "Ikars of KhAI" in the nomination "Best Head of Department" (2006)

Winner of the professional excellence competition "Ikars of KhAI" in the nomination "Best Research Fellow" (2009)

Awarded the Honorary Badge "For Merit" for conscientious work in training highly qualified specialists, achievements in the field of modeling and diagnostics of aircraft engines, active participation in the development of international relations in the field of aircraft engine building and on the occasion of the 85th anniversary of the National Aerospace University "KhAI" (2015)

Awarded the "Excellent Education Worker" badge of the Ministry of Education and Science of Ukraine (2015)

Awarded the Honorary Diploma of the Verkhovna Rada of Ukraine for special services to the Ukrainian people (2020)

The Chairman of the Kharkiv Regional Council was thanked for many years of work and personal contribution to the development of the university's material, technical, scientific and educational base, and on the occasion of Science Day (2023)

Awarded the highest award of the Engineering Academy of Ukraine - A.N. Podgorny medal (2024)

Awarded the honorary badge "Star of KhAI" (2024)

### **Membership in Professional Associations:**

**Head** of the editorial board of the journal *Aerospace Engineering and Technology* (National Aerospace University, Kharkiv, Ukraine)

**Member** of the editorial board of the journal *Internal Combustion Engines* (National Technical University "Kharkiv Polytechnical institute", Kharkiv, Ukraine)

**Head** of the Specialized Council for Defending Dissertations in National Aerospace University

**Head** of the Section "Aerospace Engineering and Transport" of Expert Council on the Scientific Researches of the Ministry of Science and Education of Ukraine

### **INTERNATIONAL ACTIVITIES:**

#### **Internships:**

#### **Cooperation with Foreign Universities:**

Shenyang Aerospace University

Nanning Aerospace University

Nanchang Aerospace University

University of Sheffield

University of Manchester

Hefei University of Technology

Anhui University

#### **Teaching/Lecturing Abroad:**

Shenyang Aerospace University, 2025

Anhui University, 2025

Harbin university, 2025

### **SELECTED PUBLICATIONS:**

#### **Key Articles (Scopus, WoS, others):**

Loboda, I. Simplified data-driven models for gas turbine diagnostics / I. Loboda, J. L. P. Ruiz, I. G. Castillo, J. M. C. Arias, S. Yepifanov // *Machines*, 2025, 13, 344, 25 p.  
[DOI: 10.3390/machines13050344](https://doi.org/10.3390/machines13050344).

Popov, V. Architecture of Distributed Control System for Gearbox-Free More Electric Turbofan Engine / V. Popov, S. Yepifanov, Y. Kononykhyn, A. Tsaglov // *Aerospace*. – 2021. – 8(11), 316. –  
[DOI: 10.3390/aerospace8110316](https://doi.org/10.3390/aerospace8110316)

Estimation of Gas Turbine Unmeasured Variables for an Online Monitoring System / I. Loboda, L.A. Miró Zárata, S. Yepifanov, C. Maravilla Herrera, J.L. Pérez Ruiz // *International Journal of Turbo and Jet Engines*, 2020, 37(4), pp. 413–428.

Estimation of Performance Parameters of Turbine Engine Components Using Experimental Data in Parametric Uncertainty Conditions // O. Khustochka, S. Yepifanov, R. Zelenskyi, R. Przynsowa // *Aerospace*. – 2020. – Vol. 7, iss. 1. – 17 p.

Estimation of Gas Turbine Unmeasured Variables for an Online Monitoring System [Electronic resource] / I. Loboda, L. A. Miró Zárata, S. Yepifanov, C. Maravilla Herrera, J. L. Pérez Ruiz // *International Journal of Turbo and Jet Engines*. – 2018. – P. 413–428. DOI: 10.1515/tjj-2017-0065.

New Approach to Torque Measurement Unit Development and its Calibration / S. Sirenko,

S. Yepifanov, K. Podgorsky, S. Nechunaev // Journal of Konbin. – 2018. – Vol. 46, iss. 1. – P. 75–86. – DOI: 10.2478/jok-2018-0024.

Dynamic Turbine Clearance Simulation Considering the Influence of Temperature on Mechanical Load-Induced Displacements [Electronic resource] / R. Zelenskyi, S. Yepifanov, Y. Martseniuk, I. Kravchenko, I. Loboda // Journal of Aerospace Engineering. – 2017. – Vol. 30, iss. 5. – P. 04017042-1–04017042-11. – DOI: 10.1061/(ASCE)AS.1943-5525.0000751.

Alternative Method to Simulate a Sub-Idle Engine Operation in Order to Synthesize its Control System / S. I. Sukhovii, F. F. Sirenko, S. V. Yepifanov, I. Loboda // International Journal of Turbo and Jet Engines. – 2016. – Vol. 33, iss. 3. – P. 229–237. – DOI: 10.1515/tjj-2015-0027.

Modeling the Gas Turbine Engine Under its Dynamic Heating Conditions [Electronic resource] / S. V. Yepifanov, R. L. Zelenskyi, I. Loboda // Journal of Engineering for Gas Turbines and Power. – 2015. – Vol. 137, iss. 3. – P. 1–10. – DOI: 10.1115/1.4028449.

A More Realistic Scheme of Deviation Error Representation for Gas Turbine Diagnostics / I. Loboda, S. Yepifanov, Y. Feldshteyn // International Journal of Turbo and Jet Engines. – 2013. – Vol. 30, iss. 2. – P. 179–189. – DOI: 10.1515/tjj-2013-0006.

A comparison of flat and hierarchical structures in aircraft engine fault classification algorithms // I. Loboda, J. L. Pérez-Ruiz, I. G. Castillo, S. Yepifanov // Proceedings of the ASME Turbo Expo, 2024, 4, v004t05a053 (Scopus)

Nonlinear Surrogate Models for Gas Turbine Diagnosis / I. Loboda, I. González Castillo, S. Yepifanov, R. Zelenskyi // Proceedings of ASME Turbo Expo'2022: Turbine Technical Conference and Exposition, June 13–17, 2022, Rotterdam, The Netherlands. – Rotterdam, 2022. – Vol. 2: Coal, Biomass, Hydrogen, and Alternative Fuels; Controls, Diagnostics, and Instrumentation; Steam Turbine. – DOI: [10.1115/GT2022-83550](https://doi.org/10.1115/GT2022-83550). (SCOPUS).

Study on accuracy of heat transfer coefficient determination in the bearing chamber for gas turbine / I. Petukhov, T. Mikhaylenko, S. Yepifanov, O. Shevchuk // Proceedings of ASME Turbo Expo 2020 Turbomachinery Technical Conference and Exposition, G2020-14304. (SCOPUS).

Analysis of the Error in the Gas Temperature and the Thermocouple Time Constant Measuring Through Gas Turbine Engine Tests / S. V. Yepifanov, Q. Li // Integrated Computer Technologies in Mechanical Engineering. Advances in Intelligent Systems and Computing / eds.: M. Nechyporuk, V. Pavlikov, D. Kritskiy. – Cham : Springer, 2019. – Vol. 1113. – P. 325–336. – DOI: 10.1007/978-3-030-37618-5\_28.

Comparative analysis of two gas turbine diagnosis approaches [Electronic resource] / I. Loboda, J. L. Pérez-Ruiz, S. Yepifanov, R. Zelenskyi // ASME Turbo Expo 2019: Turbomachinery Technical Conference and Exposition. Vol. 6: Ceramics; Controls, Diagnostics, and Instrumentation; Education; Manufacturing Materials and Metallurgy, June 17–21, 2019, Phoenix, Arizona, USA, 12 p. – 2019. – DOI: 10.1115/GT2019-91644.

A Benchmarking Analysis of a Data-Driven Gas Turbine Diagnostic Approach / I. Loboda, J. L. Pérez-Ruiz, S. Yepifanov // Proceedings of ASME Turbo Expo'2018: Turbine Technical Conference and Exposition, June 11–15, 2018, Oslo, Norway. – Oslo, 2018. – Vol. 6 : Ceramics; Controls, Diagnostics, and Instrumentation; Education; Manufacturing Materials and Metallurgy. – DOI: 10.1115/GT2018-76887.

Simulation of Pneumatic Volumes for a Gas Turbine Transient State Analysis [Electronic resource] / S. Yepifanov, R. Zelenskyi, F. Sirenko, I. Loboda // Proceedings of ASME Turbo Expo 2017: Turbomachinery Technical Conference and Exposition, June 26-30, 2017, Charlotte, NC, USA. – [S. I.], 2017. – Vol. 6. – DOI: 10.1115/GT2017-65110.

Mathematical Models and Methods of Effective Estimation in Multi-Objective Optimization Problems Under Uncertainties / E. Menialov, O. Khustochka, K. Ugryumova, S. Chernysh, S. Yepifanov, M. Ugryumov // Proceedings of 12th World Congress of Structural and Multidisciplinary Optimization. WCSMO'12, June 5–9, 2017, Braunschweig, Germany. – [S. I.], 2017. – P. 411–427.

Improved Turbine Blade Lifetime Prediction [Electronic resource] / C. M. Herrera, S. Yepifanov,



- I. Loboda // Proceedings of ASME Turbo Expo'2015: Turbine Technical Conference and Exposition, June 15–19, 2015, Montreal, Canada. – [S. I.], 2015. – Vol. 6. – DOI: 10.1115/GT2015-43046
- Modeling the GTE Under its Dynamic Heating Conditions [Electronic resource] / S. V. Yepifanov, R. L. Zelenskyi, I. Loboda // Proceedings of ASME Turbo Expo'2014: Turbine Technical Conference and Exposition, June 16 – 20, 2014, Düsseldorf, Germany. – [S. I.], 2014. – DOI: 10.1115/GT2014-26258.
- Alternative Method to Simulate a Sub-Idle Engine Operation in Order to Synthesize Its Control System [Electronic resource] / S. I. Sukhovii, F. F. Sirenko, S. V. Yepifanov, I. Loboda // Proceedings of ASME Turbo Expo'2014: Turbine Technical Conference and Exposition, June 16–20, 2014, Düsseldorf, Germany. – [S. I.], 2014. – Vol. 6. – DOI: 10.1115/GT2014-25960.
- Ridge Estimation and Principal Component Analysis to Solve an Ill-Conditioned Problem of Estimating Unmeasured Gas Turbine Parameters [Electronic resource] / M. Shevchenko, S. Yepifanov, I. Loboda // Proceedings of ASME Turbo Expo'2013: Turbine Technical Conference and Exposition, June 3–7, 2013, San Antonio, Texas, USA. – [S. I.], 2013. – Vol. 4. – DOI: 10.1115/GT2013-94496.
- On the Selection of an Optimal Pattern Recognition Technique for Gas Turbine Diagnosis [Electronic resource] / I. Loboda, S. Yepifanov // Proceedings of ASME Turbo Expo'2013: Turbine Technical Conference and Exposition, June 3–7, 2013, San Antonio, Texas, USA. – [S. I.], 2013. – Vol. 4. – DOI: 10.1115/GT2013-95198.
- A More Realistic Scheme of Deviation Error Representation for Gas Turbine Diagnostics / I. Loboda, S. Yepifanov, Y. Feldshteyn // Proceedings of ASME Turbo Expo'2012, June 11–15, 2012, Copenhagen, Denmark. – [S. I.], 2012. – Vol. 1. – P. 863–872. – DOI: 10.1115/GT2012-69368.
- A Comparative Analysis of Turbine Rotor Inlet Temperature Models / S. Yepifanov, C. M. Herrera, I. Loboda // Proceedings of ASME Turbo Expo'2011, June 6–10, 2011, Vancouver, British Columbia, Canada. – [S. I.], 2011. – Vol. 3. – P. 317–327. – DOI: 10.1115/GT2011-46161.
- A Mixed Data-Driven and Model Based Fault Classification for Gas Turbine Diagnosis / I. Loboda, S. Yepifanov // Proceedings of ASME Turbo Expo'2010: Power for Land, Sea and Air, June 14–18, 2010, Glasgow, UK. – [S. I.], 2010. – Vol. 3. – P. 257–265. – DOI: 10.1115/GT2010-23075.
- Diagnostic Analysis of Maintenance Data of a Gas Turbine for Driving an Electric Generator / I. Loboda, S. Yepifanov, Y. Feldshteyn // Proceedings of ASME Turbo Expo'2009: Power for Land, Sea and Air, June 8–12, 2009, Orlando, Florida, USA. – [S. I.], 2009. – Vol. 1. – P. 745–756. – DOI: 10.1115/GT2009-60176.

### **Books, Chapters in Collective Monographs:**

- Синтез систем управления и диагностирования газотурбинных двигателей : монография / С. В. Епифанов, Б. И. Кузнецов, И. Н. Богаенко, Г. Г. Грабовский, В. А. Дюков, С. А. Кузьменко, Н. А. Рюмшин, А. А. Самецкий. – Киев : Техніка, 1998. – 312 с. – ISBN 966-575-121-2.
- Концепции проектирования и доводки двигателей для учебно-боевых самолетов : монография / С. В. Епифанов, И. Ф. Кравченко, В. В. Логинов. – Харьков : ХАИ, 2017. – 388 с. – ISBN 978-966-2906-70-7.
- Advanced Nonlinear Modeling of Gas Turbine Dynamics / R. L. Zelenskyi, S. V. Yepifanov, I. Loboda // Aerospace Engineering : [collective monog.] / ed. by G. Dekoulis. – 2019. – 19 p.
- Modeling of Turbomachine for control and Diagnostic Applications : monograph / I. Loboda, S. Yepifanov. – Published in London, United Kingdom, 2020. – 100 p.
- A New Approach for Model Developing to Estimate Unmeasured Parameters in an Engine Lifetime Monitoring System : monograph / C. Maravillia, S. Yepifanov. – London, 2020. – P. 59–76.
- Gas Turbine Simulation Taking into Account Dynamics of Gas Capacities : monograph / S. Yepifanov, R. Zelenskyi. – London, 2020. – P. 31–57.
- Turbine Engine Starting : monograph / S. Yepifanov, F. Sirenko. – London, 2020. – P. 13–30.
- Estimation of Performance Parameters of Turbine Engine Components Using Experimental Data in Parametric Uncertainty Conditions // O. Khustochka, S. Yepifanov, R. Zelenskyi, R. Przysowa //

Aerospace. – 2020. – Vol. 7, iss. 1. – 17 p.

Methodology of non-linear robust estimation for the solutions synthesis of inverse and direct multidisciplinary problems in engineering dimensional chains calculation based on discrete analog data / I. Trofimova, Ye. Menyailov, S. Chernysh, S. Yepifanov, O. Khustochka, M. Ugryumov, A. Menyailov, D. Chumachenko // *System research and information technologies*. – 2020. №4. P. 70-88.

Popov, V. Architecture of Distributed Control System for Gearbox-Free More Electric Turbofan Engine / V. Popov, S. Yepifanov, Y. Kononykhyn, A. Tsaglov // *Aerospace*. – 2021. – 8(11), 316.

Loboda, I. Applicability of simplified data-driven models in gas turbine diagnostics / I. Loboda, J/ I. Perez-Ruis, I. G. Castillo, S. Yepifanov // *Proceedings of the ASME Turbo Expo, 2023, GT2023-104176*, 10 p.

A comparison of flat and hierarchical structures in aircraft engine fault classification algorithms // I. Loboda, J. L. Pérez-Ruiz, I. G. Castillo, S. Yepifanov // *Proceedings of the ASME Turbo Expo, 2024, 4, v004t05a053*.

Loboda, I. Simplified data-driven models for gas turbine diagnostics / I. Loboda, J. L. P. Ruiz, I. G. Castillo, J. M. C. Arias, S. Yepifanov // *Machines*, 2025, 13, 344, 25 p.

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**ADDITIONAL INFORMATION:**

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**IT Skills:**

Fortran and C programming

**Social and Community Activities:**

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