



COMPOSITE MATERIALS AND CONSTRUCTIONS

INTERNATIONAL CONFERENCE

COMPOSITE.MAI.RU



10 November, 2020

SCHEDULE OF THE CONFERENCE

10:00-12:00 PLENARY SESSION		
12:30-18:00 SECTIONS		
SECTION 1	SECTION 2	SECTION 3
Methods of Design, Calculation and Optimization of Polymer Composite Materials (PCM) Constructions	Advanced Technologies of Polymer Composite Materials (PCM) Processing for the Manufacture of Structures on Their Basis	Polymer Composite Materials (PCM) for Aircraft Design, Power Engineering and Construction, Methods of Research and Testing of PCM

PROGRAM

Plenary session

10:00-12:00

No.	Participant	Theme
1.	Pogosyan Mikhail, MAI	Composites and Industry 4.0.
2.	Qu Shaoxing, Zhejiang University	Nonlinear Interfacial Models of Composites
3.	Shumakov Anton, Umatex	Thermoplastic composite material for various application
4.	Vilents Victor, JSC "AeroComposit"	Technologies for repair of aircraft units made of polymer composite materials

Section 1

Methods of Design, Calculation and Optimization of Polymer Composite Materials (PCM) Constructions

12:30-18:00

No.	Participant	Theme
1.	Sultanova Albina, JSC "AeroComposit"	Design, choice of materials and production of highly loaded structures from PCM
2.	Bolshikh Aleksandr, MAI	Methods for flexibility determination of «composite-to-composite» and «composite-to-metal» bolted joints of medium and high thickness: empirical formula review
3.	Grinev Mikhail, JSC "UEC-Aviadvigatel"	Design of perspective fan blades from PCM for Russian aircraft engines

4.	Krylov Yaroslav, JSC "INCMaT"	Approaches to modeling damage to PCM products to ensure survivability and their experimental justification
5.	Pavlov Alexander, Samara University	Laminate composite material nonlinear model development
6.	Eremin Valentin, MAI	Peculiarities of the rigidity characteristics of the racing car monocoque type body made of three-layer panels consisting of PCM with honeycomb core
7.	Roman Ksenia, PNRPU	Prediction of Effective Elastic Characteristics of Spatially-Reinforced Composite Materials on a Structure Fragment
8.	Levchenkov Mikhail, TsAGI	Parametric investigations of strength of a composite panel after impact damage
9.	Maskaykina Anna, MAI	Research of a metal-composite joint on the example of a helicopter blade attachment unit, taking into account fatigue life and service life
10.	Markin Oleg, ORPE "Technologiya"	Development of the structural design for the polymer composite passenger aircraft door hinge fixing
11.	Kurkin Evgenii, Samara University	Development of a technique for topological optimization of composite structures considering the material anisotropy
12.	Skleznev Andrey, MAI	Overview of existing designs for load-bearing fuel tanks
13.	Spirina Mariia, Samara University	Accuracy estimation of the short fibers reinforced composite material plasticity model
14.	Kungurtseva Ekaterina, PNRPU	Research of a spar shape influence on a smart rotor blade torsion angle
15.	Volkov Anton MAI	Features of design and calculation of three-layer composite structures with discrete filler
16.	Verbitckii Anton, INCMaT	Synthesis of a composite Ilyushin IL-114 ground spoiler with topology optimization
17.	Muisin Airat, NPO GIPO	Comparison of two methods for calculating the strength of structural elements made of composite materials
18.	Gudzenko Sergey, MAI	Formation of an unobtrusive appearance of a high-speed aircraft
19.	Prilutsky Dmitry, Siemens Digital Industries Software	Industry 4.0 for Composite Aerostructure Development

Section 2

Advanced Technologies of Polymer Composite Materials (PCM) Processing for the Manufacture of Structures on Their Basis

12:30-18:00

No.	Participant	Theme
1.	Bondarchuk Daria, MAI	Calculation of technological stresses and warpage in a stringer panel
2.	Babichev Anton, CRISM	Manufacturing of anisogrid composite wing box for a passenger aircraft
3.	Golovin Danila, PNRPU	Numerical modeling of the heating process of the forming tooling and thermoplastic composite material workpiece
4.	Martynyuk Larion, MAI	Technology for producing a compressor small-sized gas turbine engine of a composite material
5.	Yuvshin Aleksandr, ITMO	Development of automated technology for the manufacture of tubular deployable elements from thermoplastic composite materials
6.	Aleshkevich Vladislav, MSU	Step-by-step study of carbonation for obtaining carbon-carbon composites from PCM with phthalonitrile matrices
7.	Pristupova Yulia, PNRPU	Numerical Modeling of the Cooling Process of a Composite Material Laminated Package with a Thermoplastic Matrix
8.	Chervyakov Alexander, MAI	Fiber technology in the production of articles for aerospace applications from thermoplastic PCMs

9.	Chertykovtseva Vladislava, Samara University	Molding gate optimization for weld line location away from sort-fiber composite structures loaded area
10.	Artemiev Andrey, MAI	The influence of the process' technological modes of manufacturing on the parameters of the macrostructure and correction of parts from layered PCM
11.	Savchenkov Roman, Anisoprint-Russia	Technology for the production of composites with continuous fibers by 3D-printing
12.	Chesnokov Aleksei, UniTech	Technologies for the production of high-temperature composite fasteners for aviation and rocket and space technology
13.	Lebedev Alexander, MAI	Continuous laminate technology for thermoplastic honeycomb sandwich panel processing

Section 3

Polymer Composite Materials (PCM) for Aircraft Design, Power Engineering and Construction, Methods of Research and Testing of PCM 12:30-18:00

No.	Participant	Theme
1.	Xu Wu, Shanghai Jiao Tong University	Improvement of the test standards for determination of mode I interlaminar fracture toughness of composite under large deformation
2.	Baurova Natalya, MADI	Assessment of changes in the operational properties of PCM based on fibrous fillers under the influence of negative temperatures
3.	Salienko Nikolay, MAI	Experimental and numerical evaluation of interlayer crack resistance of epoxy-glass composites under static loading
4.	Ermakov Denis, PNRPU	Numerical Prediction of Effective Elastic Characteristics of Spatially Reinforced Composite Materials with an Orthogonal Weaving Structure
5.	Erofeev Timur, MAI	Application of composite materials in an upgraded engine low pressure compressor for a regional passenger aircraft
6.	Movchun Petr, JSC "UEC-Aviadvigatel"	Application of 3D-printing technology for growing parts of complex geometry from thermoplastic composite materials
7.	Pavlova Svetlana, Samara University	Experimental study of nonlinearity of the mechanical properties of layered woven carbon fiber reinforced plastics with a cross-hatching structure
8.	Kupriyanova Yanina, MAI	Application of composite materials with "shape memory" in the design of reinforcing structures
9.	Terekhov Vladimir, MSU	Fluorinated aromatic amines as curing agents for phthalonitrile thermosetting resins with improved thermo-oxidative stability
10.	Lepeshkin Alexander, MAI	Test technique for heat exchangers and turbine blades of GTE
11.	Chebanenko Valerii, SSC RAS	Characteristics of propagation of Lamb waves excited by an angular wedge actuator in an orthotropic CFRP plate
12.	Kostin Vsevolod, MAI	Methods of research the influence of the thickness of the adhesive layer on the strength of adhesive joints
13.	Larin Artem, MAI	Methods of experimental investigation of structures of radio transparent radomes. Search and localization of defects
14.	Rybolovlev Mikhail, MAI	Development of a method for approximate estimation of strength properties of multidimensional-reinforced carbon-carbon composite materials
15.	Salamatin Vasiliy, MAI	Ways to ensure lightning resistance of aviation carbon fiber structures containing adhesive compounds
16.	Silchenko Olga, MAI	Research of physical, chemical and mechanical properties of coatings made of ceramic polymers or composite materials reinforced with quasicrystals and carbon nanotubes obtained by high-speed ion-plasma magnetron sputtering
17.	Demina Tatiana, MAI	Hybrid microparticles based on polyesters and hydroxyapatite nanoparticles

18.	Tkachenko Timofey, MAI	Influence of the molecular structure of polyamides on the orientation of smectic liquid crystals
19.	Kondratsky Igor, MAI	Study of the morphology of coatings and parameters of electrolytes for micro-arc oxidation of ultra-light magnesium alloy