ABSTRACT&REFERENCES

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RESEARCH OF FORMING OF THE SYSTEM OF TRANSPORT PORES IN THE STRUCTURE OF CARBON COMPOSITES BY THEIR GASIFICATION

p. 6–9

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The structure of pores for carbonized carbon plastics is considered. Description of porous structure by the parabolic law of distribution on four local maximums is offered. Mechanism of forming for the system of transport pores are researched in the structure of carbonized carbon plastics taking into account oxidization of its lateral face and real distribution of porous structure on the size of radiuses at gasification in the medium of carbon dioxide. The task of carbon dioxide transfer on length of carbonizing carbon plastic pores, providing the given profiling of its structure in the process of gasification, is considered
Keywords: *carbonizing carbon plastic, gasification, carbon dioxide, profiling of structure, transport pores*

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PROMISING SOLUTIONS IN SOLVING THE PROBLEMS OF LIGHTING FOR ENERGY EFFICIENCY TECHNOLOGY

p. 10–14

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The problems of energy efficient technologies in the context of artificial sources of radiation in the visible light for lighting of premises of the different types are discussed in the article. A historical excursion into the design and development of electric lamps is carried out to understand the perspective of the use and further development in LED lighting. The analysis of existing electric lamps is carried out. The optimal solution are defined for application and development
Keywords: *light, incandescent lamp, fluorescent, halogen, LED, energy efficiency, lighting, diode, power, luminous flux*

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DEVELOPMENT OF THE METHODS FOR IMPROVEMENT OF TRAM ENERGOMECHANICAL PERFORMANCE BY IMPLEMENTATION OF NEW TRAM CROSSINGS

p. 15–20

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Repair efficiency improvement consists in the development of technical service and repair control systems, in expansion of developments and applying of the modern means of wagon diagnostics technologies. Timely repair increases the service life of the tram and reduces material and energy losses. The issues for determination of guiding forces using computer facilities are considered, an assessment of safety for wagon movement in the curves are given

Keywords: *tram rails, new tram crossings, movement dynamics of the tram, oscillations harmonics*

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THE EXPERIMENTAL STUDY OF HEATING SOURCES IN LIVING ROOM OF MULTISTORY BUILDING

p. 20–26

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The literature review of current sources of heating of residential premises was undertaken. The results of experimental studies of heating sources, for example a living room of 16 m2 in a brick house on the middle floor are presented. Methods and means of measurement are described. The best sources from the point of view of minimum energy consumption and the cost of their monthly usage were determined
Keywords: *central heating, individual meter, infrared convection heater, electronic thermostat, air conditioner*

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ANALYSIS OF THE ELECTRIC FIELD DISTRIBUTION IN THE DISEASED OVARIES OF COWS

p. 26–30

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This article is focused on solving the problem of the electromagnetic radiation distribution inside the ovaries of cattle. As a result of theoretical studies integral equation was obtained based on vector fields and integral formulas of vector field theory. Solving of the equation allowed to obtain formulas for the calculation of the electric field mean value inside of diseased ovaries. Mean value of the electric field is necessary for calculation of biotropic parameters for treatment of inflammation of ovaries
Keywords: *model of ovaries, electric field distribution in the ovaries of animals, field biotropic parameters*

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NUMERICAL CALCULATION OF THE STRESS-STRAIN STATE OF NON-RIGID PAVEMENTS, RENOVATED BY COLD RECYCLING TECHNOLOGY

p. 31–38

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The problem of improving the scientific basis to determine the stress-strain state of non-rigid pavements, renovated by cold recycling technology, is considered. The results of numerical calculation of stress-strain state of non-rigid pavements in the section of road Kyv-Kovel (297+700 km – 302+400 km) are given using automated calculation software complex of thin-walled spatial structures (KARTPK). The real state of the road section through 8.5 years after the renovation is analyzed
Keywords: *numerical calculation, finite element method, moving, stress-strain state, pavement*

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MODELING OF PROJECT MANAGEMENT INFORMATION PLATFORM OF PORT INFRASTRUCTURE DEVELOPMENT

p. 39–47

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The problems of information support of projects and programs of port infrastructure development are defined. Corresponding information platforms of technical, technological, economic and organizational nature are proposed. Each information platform provides as an information model that includes the frames that describe the structural and parametric characteristics of the objects, as well as the set of models that address the problem of project management
Keywords: *project management, port, information models, infrastructure, system, energy supply, water area, port fleet*

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THE ELLIPTICAL OSCILLATIONS OF THE PROTONS OF WATER MOLECULES

p. 48–54

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The analysis of elliptical oscillations of the protons of water molecules by means of a dual-frequency pendulum model is carried out. The vibrational mode is determined, for which the average angles of pendulum deviation are consistent with the corners of bends of hydrogen bonds in water. The possibility of occurrence of elliptical and ellipse-like rotation of protons in the liquid water around the axis of molecules bonds in a non-uniform in the angle field of intermolecular forces is proved
Keywords: *water molecule, non-uniform field of forces, elliptical oscillations, dual-frequency pendulum*

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