

Mezersa Andrii, Zanykhailo Yevgen. **DEPENDENCE OF PHYSICAL AND MECHANICAL PROPERTIES GLAZE ON WIRES AND CABLES OVERHEAD POWER LINES FROM THE INFLUENCE OF EXTERNAL FACTORS.....2**

In the article the dependence of physical and mechanical properties of ice on wires and cables overhead power lines from external factors. The article was based structural diagram is found functional dependence and Schedules of dependence of physical and mechanical properties of ice on wires and cables overhead power lines from external factors.

Keywords: physical and mechanical properties, glaze, wires, overhead transmission lines.

Power engineering

Myhaylenko VladislavVladimirovich, Ermakova Viktoriya Vladimirovna, Melnyk Aleksey Aleksandrovich, Sopiga Nikolay VladislavVladimirovich **STUDY ELEKTROMAGNITNYH PROCESSES IN TWELVE PULSES SEMICONDUCTOR CONVERTER WITH NINE ZONED REGULATIONS OF THE OUTPUT VOLTAGE...9**

The article describes an analysis of electropulses in electric circuits with semiconductor switches. A mathematical model is created for the analysis of transient processes in semiconductor converters with active and inductive load. The graphs are presented that show transient processes in electrical circuits. The paper also describes a development of the method of multiparameter modulating functions to simplify the analysis of transient processes in electrical circuits taking into account losses in the key elements. The use of the metod of multiparameter modulating functions, which implemented in the MathCAD application pack, simplifies the analysis of transient processes and optimization of the parameters of semiconductor converters in the electrical circuits of which occur processes of charging and discharging of the capacitive storage of electric energy which variable initial conditions. This approach also allows reducing the instability of modes in the process load and modes of power the losses in the key elements of the semiconductor converter were not taken into account, and at the second stage the losses were taken into account.

Key words: electromagnetic processes, output voltage and current.

Budanov Pavlo, Chernyuk Artem, Brovko Kostyantyn, Solod Kateryna, Rudenko Tetyana. **DESIGN OF NONPERMANENT EMERGENCY SITUATIONS ON ENERGYOBJECTS ON BASIS OF FRACTAL-CLUSTER APPROACH.....15**

In the article, going is considered near the design of informative space of technological process on energyobjects for control real-time of dynamics of change of descriptions of technological parameters and exposure nonpermanent emergency to the situations at the different modes of functioning on energyobjects

Keywords: informative space, cluster, signs of accident rate

Alternative energy sources

Yarymbash Dmitry Sergeyeovich, Daus Julia Vladimirovna. **PHOTOVOLTAIC PANELS IMPROVED UTILIZATION ON SOLAR POWER PLANTS.....22**

There is proposed a photovoltaic panels optimal location identifying method, that was obtained by energy flow and electric power generation characteristics identification by the methods of variables separation and approximation which takes into account the magnitude and nature of solar insolation constituents change on variously oriented in space panels and their mutual shading during the day, the panels angle and the area geographical coordinates, that maximizes the all total solar radiation incoming flow components use

Method provides high accuracy and computational efficiency, and can be applied to determine the most advantageous photovoltaic panels placement and accurate power generation prediction by the solar power plant at the designing stage.

Keywords: insolation, the photovoltaic panels angle, the relative photovoltaic panels location, geographic coordinates.

Economy, organization and management

Ushchapovskyi Konstantin Valerievich, Kostin Yuriy Dmitrievich. **EFFICIENT USE OF LABOUR RESOURCES AT SE NPC «UKRENERGO» AND WAYS OF ITS IMPROVING.....29**

The results of the analysis conducted in the article on the effective use of labour resources at SE NPC «Ukrenergo» proved an overall low level of labour productivity at the enterprise in comparison to the similar foreign companies.

Whereas, the levels of labour productivity in these electric power systems vary widely. The hypothesis introduced by the author about the impact of the factors related to the process environment or the peculiarities of the work organization in certain electric power systems has found no evidence in calculations conducted and is an indirect proof of the wastage of manpower at SE NPC «Ukrenergo» and proves the existence of hidden reserves for increasing labour productivity by optimizing its staff assistance.

The organizational structure analysis also highlighted the efficiency enhancement potentials of the use of labour resources at SE NPC «Ukrenergo». In particular the study of the functions and legal basis of business units' behaviour allowed the justifying of the reasonability of extraction from its structure the State Inspection on energy monitoring of electricity and heat use conditions with the subsequent development of a relevant supervisory structure within the authority of the principle executive branch.

Keywords: labor resources, SE «NPC «Ukrenergo», organizational structure optimization, reserves of labor productivity increase.

Kysil Svitlana Viktorivna. ANALYSIS OF EXISTING ADDITIONAL SERVICES RAILWAY ENTERPRISES.....38

The article analyzes the existing railway undertakings additional services (such as station - passenger). The survey found that revenues from additional services stations depend on seasonal (summer growing revenues, reduced winter), day of the week (revenue growth observed in Friday and Sunday) and time of day (at night there is a decline of income).

The estimation of structure in the main stations of Ukraine. The identified patterns of formation of additional services generated recommendations for increasing revenue receipts from additional services. Composition of additional services are quite varied, depending on current demand. Past studies have allowed to identify factors that affect the composition of additional services stations, namely: geographic location, travel direction, production area, an international orientation.

Keywords: railway enterprise, station, additional services, assessment, number of passengers, revenues.

Scientific and technical progress and efficiency of production

Chernyuk Anatoliy Mikhaylovich. ANALYSIS OF METHODS OF DESIGN OF STRUCTURALLY-GEOMETRICAL FORMS OF CONDUCTING POROUS ENVIRONMENTS.....46

The analysis of properties of conducting porous environments is conducted in the article. The methods of design of structurally-geometrical forms of stochastic porous environments are lighted up. The basic geometrical parameters of stochastic conducting structures, influencing on their conductivity, are certain. The method of design of conducting porous environment, based on the theory of fractal geometry, is offered to the use.

Keywords: conductivity, porous environment, fractal geometry, электрофизические parameters of conducting stochastic structure.

Troynikova Helena. APPROACHES TO SAFETY MANAGEMENT OF TRANSPORT PROCESSES ON THE RAILWAY.....54

A reflection of the quality of transport services on the Railways is the level of security on all elements of the railway infrastructure. The most dangerous element of infrastructure is a railway crossing which is confirmed by statistics. Despite the decrease in the number of road accidents number of them involving human remains critical.

Keywords: technological safety, the elements of railway infrastructure.