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S U M M A R I E S

NEW MTKVARI. *A. Getsadze.* "Energy". №3(79). 2016. Tbilisi. p.9-13. geo. sum geo. engl. rus.

Within the Tbilisi contemporary territory, Mtkvaririver is connected to three largest rivers of East Georgia such as: Aragvi, Iori and Mtkvari itself. Hydraulic energy of the Mtkvaririver in the central part of Tbilisi is utilized by Ortachala HPP the urban value of which is immense. Such a positive can be developed at the analogous, energetically unutilized, portion of the river through the HPP series (4 units) analogous to Ortachala HPP and hydro accumulating power plant (through a gas reservoir at Tbilisi "edge").

The operation of four HPPs on the river, the utilization of their dams as the bridges and thus improvement of the transportation environment both in the central part of the city and across the river flow are considered to be the significant activities in terms of the communication. Tabl. 1, bibl. 3.

METHOD OF STREAM OVERFLOW CONTROL BY WATER DISCHARGE SHIELDS FROM MOUNTAIN DEEP WATER RESERVOIRS DUE APPLICATION OF ANALYTICAL SOLUTIONS OF EQUATIONS OF THE THEORY OF SMALL-AMPLITUDE WAVES.
T. Gvelesiani , Kh.Iremashvili, G.Berdzenashvili, G.Nadaraia. Energy". №2(78). 2016. Tbilisi. p.14-18. geo. sum geo. engl. rus.

Due application of two-dimensional (2D) vertical planar unsteady equations of small-amplitude waves theory is developed the mathematical model of overflow on dam and regulation of extreme wave height at long tsunami type waves originated due seismo-tectonic, mudflow or landslide processes. Are obtained analytical solution without iteration, by method of successive summation of advance calculations. Ill. 2, bibl. 3.

FOR MODELING FALL-LANDSLIDE PROCESSES IN THE SEISMICALLY ACTIVE ZONES AND NEAR GLACIERS. *J.Kilasonia.* "Energy". №3(79). 2016. Tbilisi. p.19-23. geo. sum geo. engl. rus.

The issue, about taking into account the influence of glaciers on formation and development of fall-landslide processes, while numerical modeling on computer in mountainous and especially high mountainous regions, is considered. Character of the influence in seismic conditions is analyzed. The importance of the issue is enhanced by the fact, that five from the six strongest rivers of Georgia are fed from the glaciers, located in nine magnitude seismic intensity zones.

MATHEMATICAL MODELING OF ELECTROMAGNETIC TRANSITIONAL PROCESSES IN REVERSIBLY OPERATED POWER FACTOR CORRECTING-INVERTER DEVICES IN COMMUTING INTERVALS IN CONDITIONS OF RECUPERATIVE BRAKING. *Kokhreidze G., Khorava V., Prangishvili Gr., Tetunashvili E.* "Energy". №3(79). 2016. Tbilisi. p.24-29. geo. sum geo. engl. rus.

Mathematical modeling of electromagnetic transitional processes in counter-parallel coupled reversibly operated power factor correcting-inverter devices in general commuting intervals of an engine in conditions of recuperative braking. Current and voltage commuting functions and their division in Fourier lines is used for modeling. Mathematical modeling is based on modern method of complex and spectral transformation of variables. Equation system for united transformation system in matrix form variables toward D, Q components is acquired. Equivalent parameters of variables are established. Ill.1, bibl. 2.

THEOREM ABOUT KIRCCHOFF'S FIRST LAW MODIFICATION OF TRACTION SUBSTATION ELECTRO POWER SUPPLY IN CONDITIONS OF COUNTER-PARALLEL COUPLED REVERSIBLY OPERATED POWER FACTOR CORRECTING AND INVENTOR DEVICES.
G.Kokhreidze, M.Bakhtadze, Gr.Prangishvili, E Tetunashvili. "Energy". №3(79). 2016. Tbilisi. p.30-35. geo. sum geo. engl. rus.

Kircchoff's theorem about first law modification requirement is proved, which is caused by traction substation electro power supply in conditions of counter-parallel coupled reversibly operated power factor correcting and inventor devices with an influence of regulation and outgoing angle simultaneous functioning. Considering a theorem gives us an opportunity to precisely conduct mathematical and computer modeling of transitional processes, which is compatible with problem solving by computer technologies. Ill. 1, bibl. 4.

THE METHODS OF VOLTAGE ASYMMETRY REPORT. *K. Tsereteli, G. Pirosmanishvili, E. Iaralashvili.* "Energy". №3(79). 2016. Tbilisi. p.36-40. geo. sum geo. engl. rus.

It's discussed the asymmetric operating mode of power supply network. The focus is mainly made on the asymmetry of voltages. It's arranged the asymmetric report by means of symmetric component method. At the same time, it's shown the case of report, where it's known only the modules of voltage toward the network's land. It's shown the report of sequence coefficients according to the standards. At the same time it is marked that control and estimation of phasic shift is necessary between different sequence voltages, which is required for reliable operation of power supply network. Tabl. 1, bibl. 6.

COMPILATION AND SOLUTION OF DIFFERENTIAL EQUATIONS OPISIVAYUSHCHIKH OPERATION OF THE COLLECTOR ELECTRICAL MACHINE. *Z.Mchedlishvili.* "Energy". №3(79). 2016. Tbilisi. p.41-45. geo. sum geo. engl. rus.

In this operation the transition electrical and magnetic processes proceeding in single-phase asynchronous electrical machines are considered. Features of the worker and transient phenomena proceeding in commutatorless and collector machines are described. Differential equations opisivayushchy operation of the collector machine are received and solved. Ill.1, bibl. 10.

ABOUT SOME PRINCIPLES OF ENGINEERING METHODS FOR PERFORMING CALCULATIONOF THE FACILITY. *V. Lomidze, D. Chichua.* Energy". №3(79). 2016. Tbilisi. p. 46-47. geo. sum geo. engl. rus.

The analysis of the calculation results obtained based on the methods indicates that it is desirable to accurately satisfy the continuity conditions in the internal points (blocks) of the facility while it is permitted to roughly satisfy the given conditions on the surface.

A brief introduction and some initial principals for solving the three-dimension problem are given. Bibl. 1.

FUNDAMENTLS OF GEORGIAN HYDRO ENERGETICAL SAFETY.
R.Sakheishvili. "Energy". №3(79). 2016. Tbilisi. p.48-53. geo. sum geo. engl. rus.

Nowadays there are assimilated only little part of water power resources in Georgia. Consumption of these resources correctly, building big and medium size hydro power will provide Georgian people with electric supply and it maintains them to buy these received cheap energy to their neighbour countries. We can sconsider it as guarantee of safety for Georgian energetic and economic. Tabl. 5, bibl. 5.

PECULIARITIES OF CHANGE OF MECHANIC FEATURES OF NEUTRON IRRADIATED ZIRCONIUM CONSTRUCTION ALLOY. *M. Bibiluri..* "Energy". №3(79). 2016. Tbilisi. p. 54-59. geo. sum geo. engl. rus.

Mechanism of the change of the mechanic features of some materials extremely necessary for the contemporary reactive technologies such as Zr and some of its alloys caused by the radiation exposure is reviewed. An influence of thermal neutron radiation on the strength characteristics of the above mentioned reactor materials is analyzed.

It has been established that the main changes in the material features during the neutron radiation occur in the crystal lattice as a result of the indentation of the atoms from their normal condition. It has been proved based on the experiments that more than 25 eV energy is required for such an indentation. Tabl. 1, bibl. 10.

STATEMENT of new book: "Explanatory Dictionary of Architectural Terms of Old World". *G.Kipiani.* "Energy". №3(79). 2016. Tbilisi. p. 60-74. geo. Ill. 22.