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C O N T E N T S

S U M M A R I E S

THE NEW POINT OF VIEW OF MASTERING SOLAR ENERGY, CALCULATION OF SOLAR INDUSTRIAL PLANTS WITH THE METHOD OF CALCULATION-PROJECTION.

K.Vezirishvili-Nozadze, E.Pantskhava, N.Arabidze. **"Energy". №3(83). 2017. Tbilisi. p. 5-8. geo. sum geo. engl. rus.**

A method of calculation-projection is provided. The number of solar collectors and the whole heat-productivity of solar systems is defined for heating-hot-water-supply. Also, geometrical and energetic features of the helios system. Nomograms are composed to calculate solar industrial plants and to define energy-economical efficiency. Ill. 3, bibl. 2.

STRUCTURING METHODS FOR GEOMETRIC MODELING TASKS OF ATLAS DETECTOR.

A.Sharmazanashvili, A.Surmava. **"Energy". №3(83). 2017. Tbilisi. p. 9-17. geo. sum geo. engl. rus.**

One of the difficulties in large engineering projects is engineering data management and structuring. ATLAS detector is a largest engineering assembly at the European Organization for Nuclear Research CERN, whose engineering data management is still problematic at EDM system, because there is no ATLAS complete geometric model.

There were developed Structuring methods to get complete Geometric Model of ATLAS Detector. By using these methods, the ATLAS detector structural formalism has been developed in an 8-level hierarchical tree with 207 sub-components and 247 elementary assemblies.

Based on structural formalism was created complete Geometric Model of ATLAS by used CATIA platform. Ill. 4, tabl. 2, bibl. 4.

AN INDEX VALUE AND A DYNAMICS OF MACROECONOMICS AND ENERGETICS IN GEORGIA AND IN ABROAD.

B.Chanturidze, N.Ksovreli, M.Jikhavadze, T.Sudadze. **"Energy". №3(83). 2017. Tbilisi. p.18-21. geo. sum geo. engl. rus.**

In the paper it is discussed the meaning of electric balance and its usage as well in the country, as in the engineering and economics. The balance determines economic and social parameters. There is shown comparison of macroeconomiss' and energetic's parameters with other countries' analogous value. Tabl. 1.

EVALUATION OF THE INFLUENCE OF HARMONICS OF HIGH VOLTAGE LEVEL ON ELECTRIC RECEIVERS.

B.Chunashvili, G.Shavelashvili, J.Bezhanishvili, T.Gamrekelashvili. **"Energy". №3(83). 2017. Tbilisi. p. 22-27. geo. sum geo. engl. rus.**

The parameters of high frequency harmonics arising in the power supply network of the power currents as a result of distortion of the power curve of the power loading have been studied and is has been proved that the sensitivity of the electrolytes depends on the number of the harmonics. Consequently, the sensitivity coefficient of the harmonics of the device, the sensitivity of the electroplating sensitivity, the impact efficiency effect on the harmonic electrolytes and the effect of impacts have been introduced for the assessment of impacts on the harmonic power generators. The calculation formula for the effectiveness of the impact of the harmonics in the spectrum is offered. Ill. 3, bibl. 5.

WIND ENERGY RESOURCES OF GEORGIA AND THE CONDITIONS FOR THEIR RATIONALUSE.

D.Laoshvili, S.Bakhturidze. **"Energy". №3(83). 2017. Tbilisi. p. 28-36. geo. sum geo. engl. rus.**

Inthisarticle, theim portance of wind energy development in Georgia is explained. The wind energy potential of Georgia is estimated in accordance with current state of the art of technological progress.

The association between variability of wind energypotential intensity in different zones of Georgia and seas on alvariability of hydroenergypotential.

The article in cludes the assessment of technical capabilities of integration of wind energy into the system. Based on particular example, the expected effects of integration of wind energy into the system are presented. Ill. 1, tabl. 6, bibl. 8.

BIOMASS- ALTERNATIVE WAY TO ENERGETIC EFFICIENCY.
N.Arabidze, K.Vezirishvili-Nozadze, E.Pantskhava. **"Energy". №3(83). 2017. Tbilisi. p. 37-40. geo. sum geo. engl. rus.**

A method of calculation-projection is provided. The number of solar collectors and the whole heat-productivity of solar systems is defined for heating-hot-water-supply. Also, geometrical and energetic features of the helios system. Nomograms are composed to calculate solar industrial plants and to define energy-economical efficiency. Tabl. 2, bibl. 3.

PERSPECTIVES OF SOLID POWER PLANTS OPERATING IN GEORGIA.
L.Papava, S.Mindiashvili, I.Popkhadze. **"Energy". №3(83). 2017. Tbilisi. p. 41-45. geo. sum geo. engl. rus.**

The practice of using thermal power stations operating on solid waste household is discussed in the world. Statistics on the number of solid waste in Georgia and the forecast for growth. The prospect of building such a station in Georgia is discussed. Ill. 1, tabl. 3, bibl. 6.

SPRAYED CONCRETE APPLICATION WORKS AT TRANSPORT TUNNELS
N.Dadiani. **"Energy". №3(83). 2017. Tbilisi. p. 46-59. rus. sum geo. engl. rus.**

Some technical and technological parameters of sprayed concrete worksperformance fortransport tunnels construction are described. Sprayed concrete admixtures are given, strength indicators in initial terms of itshardening are specified. Some details of production are shown and the recommendations of practical character for ensuring quality of sprayed concrete covering are provided. Is paid attention to actions of the operator and rebound of material duringprocesse of sprayedconcrete application. Ill.5, tabl. 5, bibl. 9.

HARDNESS AND DEFORMATION FEATURES OF THE DRY AND HUMID CONCRETE FROM ADSORPTION THEORY PROSPECTIVE
M.Lordkipanidze, T.Jojua, Nana Dondoladze**. "Energy". №3(83). 2017. Tbilisi. p. 60-65. rus. sum geo. engl. rus.**

Experiments run to identify the creep of the dry and humid concrete showed that the creep deformation is not observed in the dry concrete with no migrating water in its pores and micro-fractures, and in case of the humid concrete, the creep develops quite intensively and fades away, if the constant force effecting it is less than the long resistance limit, if the load is more than such limit. The creep is non-fading and the concrete will disrupt as the time passes. Due to this, the reason for creep is the effect of water adsorption in the micro-fractures of the tense concrete.
Ill.3, bibl. 4.