

ABSTRACTS

Avramenko A.A., Tishchenko A.A., Maslennikov A.M.

CHOICE OF MAGNET CORE MATERIAL FOR ELECTRIC MOTOR WITH ROLLING ROTOR.

Researches of materials, made from steel, preliminary passing chemical-thermal treatment are resulted. By the method of ammeter-voltmeter the dependences $B = f_1(H)$ and $\mu_1 = f_2(H)$ are got. Properties of the materials at which the motor with a rolling rotor develops a maximal moment are determined.

Index terms – **electric motor with rolling rotor, magnetic induction, permeability.**

Adamova S.V., Fedjushko Ju.M., Sasimova I.A.

DEFINITION OF PARAMETRES IN THE ELECTROPHYSICAL SYSTEM FOR PROTECTION OF GARDENS AGAINST INSECTS-WRECKERS.

Parameters of pulse electric field for destruction of insects-wreckers in gardens are defined.

Index terms – **electro physical system, pulse electric field, insects-wreckers.**

Afanasov A.M.

QUOLITATIVE ANALISYS OF ELECTRICAL AND MAGNETIC LOSSIS IN DC TRACTION ELECTRICAL MOTORS.

Analysis of influence of electric and magnetic losses in cores of traction electrical motors on overheat of their windings is resulted. Using of dimensionless specific weight factors defining character of thermal potential formation in the cores windings is offered.

Index terms – **traction electrical motors, core windings, thermal potential, electric and magnetic losses.**

Bujnyj R.A., Zorin V.V., Kvicinskij A.A.

ABOUT DEFINITION OF CRITICAL LENGTH OF A CABLE ELECTRIC LINE. COMMENTS AND REMARKS TO CHAPTER 2.3 OF "RULES OF ELECTRIC INSTALLATIONS CARRY OUT".

The analysis of influence of capacity of high-voltage electric lines on a mode of their work is carried out. Analytical expression which allows to count critical length of the cable line at which their end voltage not exceed admissible value for cable isolation in no load operation is received. The expediency of replacement of a ratio defining critical length of the cable

line in chapter 2.3 of "Rules of electro installations carry out" is proved.

Index terms – **electric installations, cable electric line, critical length, definition.**

Varshamova I.S., Lupikov V.S

TECHNIQUE OF ESTIMATION OF A CYLINDRICAL COIL RESISTANCE IN THE MAGNETIC FIELD ELECTROMAGNET COMPENSATOR AT ITS LONG HEATING TO THE ESTABLISHED TEMPERATURE.

The simplified technique of modeling of temperature on volume of the symmetric cylindrical coil on the basis of base dependence of the established temperature in its axial central section along a piece of a radial axis is developed. The estimation of change of resistance of the coil from heating temperature is spent by own current.

Index terms – **electromagnet compensator, cylindrical coil, heating, resistance, technique of estimation.**

Getman A.V.

DETERMINATION OF MAGNETIC FIELD ZONAL HARMONICES ON A THE TECHNICAL OBJECT SIGNATURE AT THEIR ROTATION.

The theoretical aspects of practical determination of spatial harmonics in a magnetic field of the technical object at their rotation are considered on the base of mathematical processing their signatures. The technique of the zonal harmonics determination is offered using of integral processing the magnetic flux values at the technical object rotation inside a contour's measuring system.

Index terms – **technical object, magnetic field, spatial harmonic, measuring system.**

Korol E.G., Lupikov V.S., Sereda A.G.

TECHNIQUE OF MEASUREMENT MAGNETIC MOMENT COMPONENTI IN THE POWER ELECTRIC EQUIPMENT.

Analysis of systems for measuring magnetic moment components in power electric equipment by means of four three-componential converters are resulted. Analytical parities for a relative error estimation of the measurements caused by multiple components in the equipment external magnetic field are offered.

Index terms – **the power electric equipment, external magnetic field, magnetic moment, components, measuring.**

Kramchanin E.G.

CONTOUR SYSTEM FOR MEASURING OF MAGNETIC MOMENTS IN TECHNICAL OBJECTS.

The operation principles of contour dynamic systems for measuring of magnetic moments in technical objects with an angular displacement are considered. A functional diagram of the system is proposed. Practical aspects of implementing such systems are considered.

Index terms – **power equipment, magnetic moment, measurement, dynamic system, signature.**

Kuznetsov B.I., Voloshko A.V., Bovdyj I.V., Vinichenko E.V.

DYNAMIC CHARACTERISTICS OF ROBUST CONTROL SYSTEM BY ROLLING MILLS MAIN DRIVES WITH RELATED THROUGH THE ROLLED METAL AS ROBUST CONTROL SYSTEM PLANT

The method of robust control synthesis by main drives of flattening mills as a two mass electro mechanics system for a short line and as a three mass one for the long line are developed taking into account the resilient elements in transmissions boundary path by the executive motors, reducing gears and rental felling, friction nonlinear moments between felling by the mutual influencing of rental rollers on each other during rolling through the rolled metal. Examples of dynamic characteristics of such systems are given.

Index terms – **rolling mills, main drives, robust control system.**

Lelyuk N.A., Lupikov V.S.

MODELLING OF PROCESS OF MOBILE CONTACT REBOUND IN A SWITCHING ELECTRIC DEVICE FOR ELASTIC MODEL OF VIBRATION.

Mathematical modelling of mobile contact repeated rebound process in the switching electric device for elastic model of vibration are resulted. The criterion of end of the process is offered.

Index terms – **electric device, contacts, vibration, rebound, modeling**

Litvinenko V.V., Gornyj I.F., Doroshenko M.S.

FEATURES OF MODELLING OF PROCESSES IN ELECTRIC CHAINS WITH SEMICONDUCTOR'S ELEMENTS.

Analysis of a condenser chain discharged on a coil under the scheme with semi-conductor key elements are resulted. Eliminations for choice of independent contours in this chain are established in view of the graph theory. Comparison of computing and experimental data are results for two

components of the chain current.

Index terms – **induction-dynamics drive, discharged chain, semiconductor key, modeling.**

Moroz A.N.

RESEARCH OF SENSITIVE PARAMETERS IN THE PIEZOELECTRIC SENSOR OF CYLINDRICAL FORM INTENDED FOR MEASURING OF SOUND'S PRESSURE AT WOOLWASHING.

Gives results of Computations of sensitiveness of piezoelectric sensor of cylindrical form are resulted depending on its internal and external diameters relation and vibration frequency.

Index terms – **piezoelectric sensor, piezoceramic cylinder, sensitiveness.**

Petkov A. A.

PERFECTION OF KNOWLEDGE CONTROL AT TRAINING OF ELECTROTECHNICAL PROFILE SPECIALISTS.

Analysis of diagnostic characteristics of computer programs for knowledge control of assimilation level under studying an electrotechnical device design and its circuit is resulted.

Index terms – **electrotechnical device, design, circuit, knowledge control, computer program.**

Rezinkina M.M., Grinchenko V.S.

INVESTIGATIONS OF SCREEN EFFECTIVNICE IN CONDUCTING MULTILAYERED BAND SCREENS.

Computational analysis of screening characteristics in two-layer band screens are performed on the level of their continuity. Dependence of screening characteristics in multilayer band screens depending on their layers number is got up.

Index terms – **band screen, electromagneti processes, parameters, computation.**

Sebko V.P., Shady O.Ju. Otman, Ceбko B.II., Sebko V.V.

EDDY-CURRENT THREE-PARAMETRICAL DEVICE FOR CONTROL OF PARAMETERS IN LOW-MAGNETIC FLAT SPECIMENTS.

The three-parametrical method for control of flat low-magnetic specimens is analyzed. Main relations for simultaneous measuring dates that

describe magnetic, electric and thermal parameters are obtained.

Index terms – **low-magnetic specimens, eddy-current, control, measuring.**

Sedova E.A.

METHODS OF INDIRECT MEASUREMENT OF POWER CURRENTS IN ELECTRIC DEVICES.

Analysis of measuring systems using Hall transformers the for indirect measurement of electric devices parameters are resulted.

Index terms – **electric devices, currents, indirect measurement, Hall transformer.**

Cherniavskaja M.V., Kuznecov A.I., Karpaljuk I.T., Glebova M.L.

MODELING OF THYRISTOR TRANSFORMER FOR SWITCH-RELUCTANT MOTOR.

The model of thyristor transformer describing its state in current time moment is proposed and allows to take into account the real form of current curve, winding active resistance, voltage and current pulsations.

Index terms – **tiristor transformer, mathematical model, switch-reluctant motor.**

Shevchenko S.Ju., Ganus A.I.

HIGH-FREQUENCY FLUCTUATIONS ARISING ON ISOLATION IN TRANSMISSION AIR-LINES.

Analysis of sources of high-frequency electromagnetic fluctuations in transmission air-lines is resulted. Prospects of perfection of modelling methods of the high-frequency sources are grounded in view of the line reliability. Computations of sensitiveness of piezoelectric sensor of cylindrical form are resulted depending on its internal and external diameters relation and vibration frequency.

Index terms – **transmission air-lines, isolation, high-frequency fluctuations, modelling.**

Shutenko O.V.

RESEARCH OF FEATURES OF AGEING OF TRANSFORMER OILS IN CONDITIONS OF THEIR LONG OPERATION.

Researches of parameter's changes in oils of transformer at its long operation are resulted. Characteristic dependences of the parameters during the operation are resulted and analysed. It is established, that depending on a grade of the oils and conditions of operation same parameters can essen-

tially differ.

Index terms – transformer, long operation, conditions, oils, parameters, characteristic dependences.

Schapov P.F., Osina T.G.

RESEARCH A HEAT PHYSICAL CONVERTER INTENDED FOR NOT DESTROYING CONTROL.

Research of information characteristics a heat physical converter is carried out during not destroying control of quantity and quality gluten of wheat grains at aprioristic uncertainty of its physical and chemical properties.

Index terms – not destroying control, heat physical converter, information characteristics.