

1990, □ 2

CONTENTS

Electrodynamics of Electric Power Devices

Boguslavsky L.Z., Krivitsky E.V., Romakin V.V. Simulation of Electric Discharge

in Liquid under Parametric Change of Elements in the
Circuit _____ 3

Vaskovsky Yu.N., Nudelman I.R., Chemeris V.T. Calculation of Electrodynamics Processes

in the Pulse Induction Engine Applying the Method of Finite
Elements _____ 7

Gorislavets Yu.M., Erkenov N.Kh. Electromagnetic Field of Induction Furnace

with a Rotating Motion of the Molten Metal in Channels _____
_____ 15

Kazakevich O.Ya., Redkin V.B. Application of Lanthanum Chromite as a Current Terminal

of Zirconium dioxide Electrode of MHD-Generator
Channel _____ 21

Chernavsky Yu.P., Kuzmin A.V., Nepogodiev S.V. Determination of Energy Losses

in Super-Conducting Devices _____
_____ 27

Voronenko V.I., Ivankov V.F., Rodionov V.G. Study of Magnetic Systems of

Transformers by Means of Nonlinear Equivalent
Circuits _____ 32

Varetsky Yu.E., Gapanovich V.G., Zhurakhovsky A.V., Kens Yu.A., Stryapan V.N.

Study of Magnetization Current Inrushes in the Electric Power Supply Systems of

Super-Powerful Arc Steel-Melting
Furnaces _____ 38

Transformation of Electric Energy Parameters

Pentegov I.V. Optimization of Processes in Charging Circuits of Capacitance

Accumalators of Energy with a Stepwise Form of the Acting Voltage _____
_____ 43

Bondarenko V.M., Zakharova S.V. Local Mathematical Model of the Field-Effect

Transistor with the Schottky Gate on Gallium
Arsenide _____ 52

Denisov A.I., Gordienko V.V. Correction of the Voltage Spectra en the Output of the

Autonomous Inventor with Pulse-Width Modulation _____
_____ 57

Sidorov V.S. Regulated Sources of the Reactive Power on the Basis of the Capacitor Banks

_____ 63

Duplin N.I., Pisarchuk S.E. Analysis of the Work of Diode-Capacitance Voltage Multiplier

Under Current Generator Supply _____
_____ 66

Vakhitov R.Sh., Belousov G.F., Kostitsyn A.P. Voltage Drive Mode in Systems of Forced

Accumalator
Charge_____ 72

Tokarev A.B., Zhirnova N.B. Analysis of the Requirements to Mathematical Models of Storage

Batteries for Solution of Problems on Designing of Autonomous Power Supply
Systems_____ 78

Electromechanical Energy Transformations

Kozlov V.S., Chuiko E.N. Effect of Displacement Angle of Excitation Winding of Asynchronized

Synchronous Generator on Dynamic Stability of Electric Power Plant

_____ 83

Goryagin V.F., Figotina M.I., Chernova N.S. Prediction of Parameters of Asynchronous

Explosion-Protected Engines of 6 and 10 kV
Voltage_____ 88

Electric Power Systems and Installations

Korobchuk K.V. Consideration of Loading Characteristics When -Estimating Steady Electric

Conditions of Complex Power Systems by
Computer _____ 92

Electric and Magnetic Measurements

Surdu M.N., Vertipolokh A.Ya., Levitsky A.S. Analysis of the Error of a Two-Electrode

Capacitance Pickup of Angular Displacements Induced by Misalignment of Its Electrodes _____

98

Karasinsky O.L., Tulchinsky D.Yu. Instrumentation Analysis of Dynamic Errors of Registration

_____ 106

Scientific and Technical Information

Zakrevsky S.I., Starodumov Yu.I., Dovgalevsky A.Yu. Power Source of Helium-Neon Lasers

111

Kostyuk O.M., Osnach A.M. Pulse Systems of Telemetry and Supervisory Indication of Mode

Parameters of Submurged Electric Motors of Oil-Pump Plants

111

Koba A.P., Pshenichny V.V. Power Source with Power to 600 W for CO₂- and CO-Lasers

112