

2005, □ 5

## CONTENTS

### **Theoretical electrical engineering and electrophysics**

SCHERBA A.A., PODOLTSEV A.D, KUCHERYAVAYA I.N., PEREKOS A.E. Spark-eroded

particles: size analysis, cooling rate,  
microstructure\_\_\_\_\_ 3

VISHTAK T.V., KONDRATENKO I.P., RASHEPKIN A.P. Electromagnetic fields and forces

in single-phase inductors of a transverse magnetic field for bands heating\_\_\_\_\_ 9

GANEFELD R.V., PRIMAK A.V., YAKOVLEV V.S. About non-linearity nature of metal-oxide  
varistors\_\_\_\_\_ 14

## Conversion of electric energy parameters

FEDIY V.S., NAMESTNIK S.G. Control performances of a three-phase valve-capacitor source

of reactive power in an inductive  
mode \_\_\_\_\_ 18

OLESCHUK V., STANKOVICH A., ERMURATSKY V., SIZOV A., YAROSHENKO E. Algorithms  
of

synchronized modulation for neutral-point-clamped converters with common-mode voltage

elimination \_\_\_\_\_  
\_\_\_\_\_ 22

LYPKJVSKY K.O. Comparative estimate of the main variants of estimated performances  
structure

of executive structures of discrete regulators of an alternating current  
voltage \_\_\_\_\_ 28

PERESADA S.M., SEREDA A.N. A new algorithm of electrical parameters identification of an

asynchronous motor on the basis of an adaptive observer of complete  
order \_\_\_\_\_ 32

LUKASH N.P., SUKHOVEY D.N. Application of indistinct logic for construction of automatic controllers

of synchronous generators excitation

---

41

## **Electromechanical energy conversion**

AFONIN A.A., VARDAKH M. Simulation of magnetic systems of electric motors of a cylindrical

shape with an external rotor \_\_\_\_\_  
\_\_\_\_\_ 48

CHABAN A. Computation algorithm of stroke currents and moments of a synchronous

turbogenerator in a short-circuit mode at an anchor  
terminals \_\_\_\_\_ 54

KUCHINSKY K.A., SARATOV V.A. Investigation of losses and heatings in asynchronous modes

of TGV-325 turbogenerator with different constructions of a rotor  
\_\_\_\_\_ 58

## Electric power systems and installations

VOLKOV A.V., MIROSHNICHENKO O.G. Computation of a power system losses caused by

reactive power of a single user

62

IVANKOV V.F. Computation of a switchboard windings system at short circuit axial thrusts  
action \_\_\_\_\_ 69

## Electrotechnological complexes and systems

VORONOVSKY G.K., TSELJUBA S.V., KOSTIV I.Yu., PLUGATAR A.P., AKININ K.P., ISAKOV  
G.V.,

KRASNOSHAPKA N.D. An automatic control system of technological parameters wkh smooth

control of an actuator

75

