

1997, No 4

## CONTENTS

### Electrodynamics of electrical power devices

*Tcherepin V.T., Ol'hovsky V.L., Petuhov I.S.* Optimization of magnetic deflection yoke of

spherotron type mass  
spectrometer\_\_\_\_\_ 3

*Shahtahtinsky T.I.* Influence of electrodes field heterogeneity at electric strength of solid dielectric

depending on  
macrostructure\_\_\_\_\_ 7

*Pivovarov L.V., Lomko N.A., Bondarenko V.I.* Heat conduction flow compensation of a

thermocouple with a liquid arm\_\_\_\_\_ 10  
\_\_\_\_\_

## Conversion of electric energy parameters

*Sen'ko V.I., Sen'ko E.V., Slobodjan L.R., Yurchenko N.N.* Combined application of a three-level

pulse-width modulation algorithms in three-phase inverters with a neutral point

\_\_\_\_\_  
16

*Tereschenko T.A.* Symmetric conversion of digital functions at finite intervals in power electronics\_\_\_\_\_ 22

*Shidlovs'ka N.A., Kravchenko O.P.* Load circuit analisys witch non-linearity depends on

current and temperature\_\_\_\_\_ 25

*Gorbachev M.N.* (General equations system of control-lable bridge rectifier \_\_\_\_\_ 29

## Electromechanical energy conversion

*Afonin A.A., Grebenikov V.V., Tsezhnevsky P.* Dishshape motors with axial magnetic field\_\_\_\_\_ 36

*Shumilov Yu.A., Gerasimchuk V.P.* Anvestigation of magnetic vibrodisturbing forces of asynchronous

motor at static frequency converter supply\_\_\_\_\_ 44

*Volokhov S.A., Dobrodeyev P.N., Kildishev A.V.* Stator magnetic asymmetry effect on external

magnetic field of electric  
generators \_\_\_\_\_  
48

*Bogoslavsky Yu.M., Do Nguen Hyng.* Dynamics of synchronous and asynchronous  
turbogenerators

in a simple power system taking into account turbines control \_\_\_\_\_  
\_\_\_\_\_ 52

*Vas'ko P.P.* Two-speed wind-driven electric plant for parallel operation with electric power  
system \_\_\_\_\_ 55

## **Electrical power systems and installations**

*Rehenberg K.* Estimation of insulation service life on the basis of differential-thermographic

investigation methods \_\_\_\_\_  
\_\_\_\_\_ 60

## Electrical and magnetic measurements

*Mel'nik V.G., Shvets T.V.* Loss tangent meter of a new type of electrical insulating materials\_\_\_\_\_ 63

*Dunaets B.V.* Function transducers with two-level correction\_\_\_\_\_ 66

## Scientific and technical information

*Kovalko M.P.* General features of power crisis in Ukraine\_\_\_\_\_ 72

*Malafeev S.I., Mamay V.S., Lukov A.Yu., Orlov V.A.* Complete device for automatic switches tests\_\_\_\_\_ 75

Abstracts

---

78

---