

---

□ 4

## TECHNICAL ELECTRODYNAMICS 2010

---

### CONTENTS

## Theoretical electrical engineering and electrophysics

[ZYRKA S.E., MOROZ Y.I., MOROZ E.Y. Inverse model of magnetic hysteresis](#)

## Conversion of electric energy parameters

[OLESCHUK V., GRIVA G., PRUDEAK R., SIZOV A. Dual inverters with synchronized PWM for photovoltaic generation](#) 8

[BOIKO V.S., KUDRIA E.A., SHULIAK A.A. Harmonic analysis of the currents of capacitors of the cascade compensation conversion system](#) 14

## Electromechanical energy conversion

[MAZURENKO L.I., ROMANENKO V.I. Mathematical model of asynchronous generator with valve excitation based on cut-and-try approach](#) 19

[POPOVYCH O.M. Mathematical model of the asynchronous machine of electromechanotronic system for simulation and structure modelling](#) 25

<a href="#"><u>VASKOVSKY Y.M., TYTKO O.I. Mathematical modelling of electrophysical processes in the damaged connecting bus of rotor winding of the turbogenerator</u></a>	33
<a href="#"><u>ANTONOV A.E., PETUCHOV I.S. Losses by eddy current in slotless electrical machine windings</u></a>	38
<a href="#"><u>ZAGIRNIAK M.V., SHVEDCHYKOVA I.A. Genetic synthesis of magnetic separator structures</u></a>	43
<a href="#"><u>OSADCHY V.V. Speeding of electromechanical multicomponent weight dosing system</u></a>	

## Information-measuring systems in power engineering

<a href="#"><u>BRAHYNETS I.A., ZAITSEV E.A., KONONENKO A.H., MASIURENKO Y.A., NYZHENSKY A.D. Application of quasioptimal filtration in frequency-phase laser ranging system</u></a>	
<a href="#"><u>MAZMANIAN R.O. 2-D monitoring data processing of magnetic flows in the diagnostic systems of electrical machines</u></a>	59
<a href="#"><u>LEVYTSKY A.S., NOVYK A.I. Error estimation of shaft beat measurement by capacitive sensors in electrical machines</u></a>	66
<a href="#"><u>NAZAROVA N.S., DIORDIYCHUK V.V., VINNYCHENKO D.V. Information complex for automated control system of discharge-pulse castings filtration technology</u></a>	71

**To the 60th anniversary** of corresponding member of NAS of Ukraine **STYCHERBA A.A**

<a href="#"><u>Abstracts</u></a>	78
RULES of presentation of the papers	80