

BULLETIN

SUKHOI STATE TECHNICAL UNIVERSITY OF GOMEL

Scientific-practical journal has been published since march 2000 1(84)' 2021

Editor-in-chief S. I. TIM Vice-edit A. A. BO Executive A. S. RIA

Editorial board:

 S. I. TIMOSHIN Vice-editor A. A. BOIKO Executive secretary A. S. RIABTSEVA 	 O. D. Asenchik, M. N. Vereshagin, V. A. Golub, N. V. Gruntovich, N. P. Dragun, V. V. Kirienko, V. A. Kovtun, V. P. Kudin, N. K. Myshkin, I. A. Murashko, M. I. Mihailov, V.V. Muliak, A. A. Pankov, E. N. Poddenezhny, V. D. Poroshin, B. V. Sorvirov, A. V. Sychov, N. V. Sychova, A. S. Titlov, P. A. Hilo, N. N. Himich, O. N. Shablovsky, V. M. Shapovalov,
	N. N. Himich, O. N. Shablovsky, V. M. Shapovalov, A. P. Shevlukov
Address of editorial board:	Pr. Octabria, 48, 246746, Gomel, the Republic of Belarus

Tel./fax +375 232 214 373. E-mail: nich@gstu.by

CONTENT

Mechanical Engineering	
Shablovsky O. N., Krol D. G., Kontsevoi I. A. Diffusion-kinetic processes in non-equalible	
thermal-physical systems with energy sources. Part 3. Integrable systems, resonance and inter-	
action of waves	5
Mikhailov M. I., Lapko O. A. Experimental studies of the influence of the composite coating	
of contact surfaces on their tangential rigidity	18
Nikitenko D. V., Mikhailov M. I. Thickness of the cut layer for internal milling of the screw	
surfaces of the trapezoidal profile	25
Materials Science	
Nguen T. D., Zanko A. I., Golosov D. A., Zavadskiy S. M., Melnikov S. N., Kolos V. V.,	
To T. K. Structural and phase characteristics of vanadium oxide films	33
Sarkisov O. A., Mikhalko A. M., Lapitskaya V. A., Kuznetsova T. A., Grakovich P. N.,	
Rogachev A. A. Morphological, physico-chemical features of repeated processing	
of polyethylene films in barrier discharge plasma	42
Poddenezhny E. N., Drobyshevskaya N. E., Boiko A. A., Shapovalov V. M., Drobyshevsky N. S.,	
Ashrapova T. F. Biodegradable composite materials based on starch and polyolefin mixtures	53
Power Engineering and Electrical Engineering	
Ovsyannik A. V., Klyuchinsky V. P. Thermodynamic plant optimization for the production	
of carbon acid as an element of trigenerating turbo unit on the organic Renkin cycle	61

Zalizny D. I., Zuev A. E. The efficiency of application of battery storage stations for aligning	
the electricity graphs of industrial enterprises	69
Ovsiannik A. V., Makeeva E. N. Design of high efficiency evaporation equipment functioning	
on ozone safe refrigerants mixture	76
Komnatny D. V., Kusenkov N. A., Tishkov E. V. Calculation of the electrostatic field	
of extended conductors located in conductive rectangular boundaries by the method	
of equivalent electrodes	82
Kirdishev D. V. Application of the Bayes method for detecting defects in fuel equipment	
by vibroacoustic characteristics during the operation of a diesel engine	92
Menzhinsky A. B., Malashin A. N., Menzhinsky P. B., Sidiako O. V. Modeling of magnetic	
field of electric reciprocating generator with longitudinal variation of magnetic flux using	
the finite element method	100
Krotenok U. S., Krotenok V. V. Measuring and computational complex for identification	
of the passage of inner tube objects	113
Economics and National Economy Management	
Ermonina I. V. Methodological aspects of establishment of a socio-economic model	
for the development of forestry in a radionuclide contaminated areas	120
Volkova U. A. Methodology of comparative evaluation of directions of cluster development	
of the industrial complex in the regions of the Republic of Belarus	128

• The journal is included in the Register of scientific journals of the Republic of Belarus for publishing the dissertations results on technical sciences – Mechanical Engineering, Material Sciences, Power Engineering (HAC RB order № 101 of 04.06.2005): on economics sciences – Economics and National Economy Management (HAC RB order № 26 of 02.02.2011).

- Published materials are reviewed.
- Authors' opinion does not necessarily the same as of editorial board.
- The reprinting of materials published in the journal is permitted only with the consent of both the author and publisher.
- Indexes for subscribing: for individuals 00063 for legal parties – 000632