Scientific Research Centre ''MachineStructure''



Amazon Kindle Direct Publishing

ISSN 2474-5901

Journal of Advanced Research in Technical Science

Issue 34

Journal of Advanced Research in Technical Science. -

Seattle, USA: SRC MS, AmazonKDP. – 2023. – Issue 34. – 107 p.

ISSN 2474-5901

Themes of journal: 1) Mechanical engineering and engineering science; 2) Mathematics and mechanics; 3) Mechatronics and robotics; 4) Transport, mining and construction machinery; 5) Power, metallurgical and chemical engineering; 6) Instrument making, metrology and information-measuring devices and systems; 7) Electrical and Electronics; 8) Informatics, computer engineering and management; 9) Engineering geometry and computer graphics; 10) Materials science; 11) Technology, machinery and equipment of Agroengineering systems; 12) Transport; 13) Construction and architecture; 14) Problems of personnel training in mechanical engineering.

_	Saint-Petersburg mining university. Department of mechanical engineering. Doctor of sciences
	incentantear engineering. Bottor of sciences
_	Kazan state power engineering university. Departments of technology in energy and oil and gas processing. Doctor of sciences
_	Buryat state academy of agriculture. Department of mechanization of agricultural processes. Doctor of sciences
_	Moscow polytechnic university. Department of Land Vehicles. Doctor of sciences
_	Tomsk polytechnic university. Department of Oil and Gas Business. Doctor of sciences
_	MIREA – Russian technological university. Department of automatic systems. Doctor of sciences
_	Omsk state technical university. Department of automation and robotics. Candidate of sciences
_	Kyrgyz-Russian Slavic university. Department of mechanics. Candidate of sciences
_	Volodymyr Dahl East-Ukrainian National University. Department of engineering, machines and tools.
	Candidate of sciences
_	Tomsk polytechnic university. Department of Materials Science. Candidate of sciences

Copyright © 2023 Authors, SRC MS All rights reserved. ISBN: 979-8378851188

CONTENTS

wechanical engineering and engineering science
Pishchov M.N., Belsky S.E., Tsaruk F.F. Experimental approbation of the accelerated fatigue test method on various metallic materials
Beresneva V.L., Korneev A.A. Increasing the abrasion resistance of rubbing surfaces of textile and light industry equipment parts with tribo coatings9
Biryukov V.P., Goryunov Ya.A., Dvoeglazov A.A., Yakubovsky A.A. Influence of the polymer material composition on abrasive wear
Biryukov V.P., Starostin D.A., Goryunov Ya.A., Dvoeglazov A.A. Comparative research of brass alloys on tribological properties during tests in a friction pair with steel
Biryukov V.P., Goryunov Ya.A., Dvoeglazov A.A. Influence of laser hardening modes on tribotechnical properties of cast iron-steel friction pairs
Transport, mining and construction machinery
Korolev A.E. Analysis of the technological running-in of engines
Power, metallurgical and chemical engineering
Okunev V.S. On the possibility of creating an anomally high-power power nuclear reactor within existing technologies
Lashina E.N. Prospects for improvement in CHPP performance on the example of the CHPPs in Saint-Petersburg, Russia
Yakubovich E.A. Interrelation of technological parameters of continuous casting of aluminum alloy ingots in electromagnetic mold
Electrical and Electronics
Matveev Yu.V. Analysis of the application and operation of autonomous wind electric direct current installations
Informatics, computer engineering and management
Filimonov A.B., Filimonov N.B. Optimal routing by UAV flights in group patrolling of the territory

Materials science

Roshchin M.N., Lukyanov A.I., Markachev N.A. Tribological testing of carbon-containing material with modified surface at high temperature
Roshchin M.N., Mishanova V.G. Temperature distribution in a coating with titanium diboride particles on steel during laser surfacing
Skuratov N.V., Sobolev A.V., Usov D.V. Strength of thermally modified oak, ash and birch wood at compression
Skuratov N.V., Sobolev A.V., Usov D.V. Hardness of thermally modified of birch, ash and oak wood
Technology, machinery and equipment of Agroengineering systems
Shablykin I.N. Combined method for pre-market treatment of potato tubers72
Alshynova A.M., Stupenkova M.A., Mukhamadieva K.K., Zharylkapova Zh.A. Increasing the reliability of food pumps
Matveev Yu.V. Improving the energy efficiency of pasture animal husbandry systems with the use of autonomous wind pumping units
Gorobey V.P. Rationale for the operation of a pneumohydraulic sprayer in cavitation mode
<u>Transport</u>
Korsunskiy V.A. Simulation model of a tracked vehicle with a stepped transmission under accidental external influence
Markovnina A.I., Makarov V.S., Klyushkin A.A., Belyaev D.M. Assessment of the efficiency of the use of wheeled vehicles
Problems of personnel training in mechanical engineering
Boyko L.A., Ksendzenko L.S. Teacher of mathematics and theoretical mechanics in the multicultural environment of the university

Scientific periodical issue

ISSN 2474-5901

Journal of Advanced Research in Technical Science

Issue 34

ISBN: 979-8378851188

Founder: Elena V. Zhukova.

Editorial: Scientific Research Centre «MachineStructure».

Editor in chief: Ivan A. Zhukov.

Printed by AmazonKDP, Seattle WA.

Publication Date: 24.02.2023. Title ID: 23-04. Trim Size: 7" x 10" (17.78 x 25.4 cm). Number of copies: 50 min.

Seattle, USA: Scientific Research Centre «MachineStructure», Amazon Kindle Direct Publishing 2023