

INTERNATIONAL SCIENTIFIC JOURNAL

trans & MOTAUTO WORLD

YEAR VI, ISSUE 1/2021

ISSN PRINT 2367-8399
ISSN WEB 2534-8493



SCIENTIFIC TECHNICAL UNION OF MECHANICAL ENGINEERING "INDUSTRY 4.0"
108 RAKOVSKI STR., SOFIA 1000, BULGARIA

PUBLISHER:

**SCIENTIFIC TECHNICAL UNION OF MECHANICAL ENGINEERING
INDUSTRY-4.0**

108, Rakovski Str., 1000 Sofia, Bulgaria

tel. (+359 2) 987 72 90,

tel./fax (+359 2) 986 22 40,

office@stumejournals.com

www.stumejournals.com

ISSN PRINT 2367-8399

ISSN WEB 2534-8493

YEAR VI, ISSUE 1 / 2021

EDITORIAL BOARD

CHIEF EDITOR

Prof. Petar Kolev, Bulgaria

MEMBERS:

Prof. Ahmet H. Ertas, TR

Prof. Aleksandar Kostikj, MK

Prof. Andrey Ferenets, RU

Prof. Angel Dimitrov, BG

Prof. Beti Angelevska, MK

Prof. Dainis Berjoza, LV

Prof. Dan Scarpete, RO

Prof. Daniela Todorova, BG

Prof. Emilia Andreeva-Moschen, AT

Prof. Gordana Marunic, HR

Prof. Hristo Stanchev, BG

Prof. Igor Penkov, EE

Prof. Igor Smirnov, UA

Prof. Igor Taratorkin, RU

Prof. Iliyan Lilov, BG

Prof. Lech Sitnik, PL

Prof. Ljudmila Boyko, UA

Prof. Madaminjon Aripdzanov, UZ

Prof. Martin Kendra, SK

Prof. Massimo Borghi, IT

Prof. Miho Mihow, BG

Prof. Murat Dogruel, TR

Prof. Natalia Sidenko, LV

Prof. Natasa Tomic-Petrovic, RS

Prof. Nikolay Georgiev, BG

Prof. Nikolay Ovchenkov, RU

Prof. Oleg Sharkov, RU

Prof. Pepo Yordanov, BG

Prof. Polatbeg Zhunisbekov, KZ

Prof. Rinat Kurmaev, RU

Prof. Rosen Ivanov, BG

Prof. Teymuraz Kochadze, GE

Prof. Tomaz Morchadze, GE

Prof. Vadim Zhmud, RU

Prof. Valyo Nikolov, BG

Prof. Zoran Jovanovic, RS

RESPONSIBLE SECRETARY:

Prof. Nikolay Tonchev, Bulgaria

CONTENTS

TRANSPORT TECHNICS. INVESTIGATION OF ELEMENTS. RELIABILITY

Analysis of the technological state of single-bucket cyclical excavators' identification system testing results Evgeniya Volkova, Evgeniy Nagatkin, Aleksey Druzhinin, Vladimir Poluzadov	3
Study of stress distribution of mechanical stresses in the frame of roller skates under dynamic load Krasimir Assenov, Stoil Todorov	6
Recycle rechargeable lithium - ion batteries Stela Todorova, Mladen Proykov	9

TRANSPORT. SAFETY AND ECOLOGY. LOGISTICS AND MANAGEMENT

Three-dimensional structure of transport hub in urban environment Napreenko Lidiya	11
Reducing the catastrophe risk in coastal areas: risk management at fsru terminals Filip Jovanović, Mirano Hess	13
Some issues related to increasing the traffic volume and smoothness Irakli Mikeladze, Rani Chabukiani, Teimuraz Kochadze	18
Improving the Performance of a DTN with Transportation System in Tirana City Aleksandër Biberaj, Evjola Spaho	20
Harmful effects of vibration on patients during transportation by an ambulance car, taking into account the human biomechanical system Revaz Lekveishvili, Pridon Gogiashvili, Gocha Lekveishvili	24
Safety problems in maritime transport of cargoes which are able to liquefy Delyan Shterev	27

VEHICLE ENGINES. APPLICATION OF FUELS TYPES. EFFICIENCY

Gaz diesel engine operating modes and environmental efficiency analysis Kavtaradze Revaz, Topuria Romanoz, Tchumburidze George	30
Analysis of antifriction additives to lubricants materials Vaschishina Anna	32