

International Scientific Conference Interstroymeh (ISM 2019)

IOP Conference Series: Materials Science and Engineering
Volume 786

Kazan, Russia
12 - 13 September 2019

ISBN: 978-1-7138-4717-5
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Preface	
Peer review statement	
Optimization of the internal damping rubber elements of the small diameter roller wheel of tracked system.....	1
<i>S. A. Korostelev, A. F. Verbilov</i>	
Influence of friction forces in limiter-eyelet contact on twisting angles of the rubber elements of tracked system hinges.....	8
<i>S A Korostelev, A V Gorbachev, A F Verbilov, V V Kovalev</i>	
Fatigue crack path and propagation rate at weld root in cruciform joint.....	15
<i>A Y Shlepetinskiy, K P Manzhula, A G Saveliev</i>	
Mathematical model of increase in durability of road machines taking into account operating conditions	22
<i>Vladimir Zorin, Le Tchong Tuan</i>	
Indicators of the efficiency for using of road-building machines at various levels of management decisions	30
<i>A I Dotsenko, K P Mandrovskiy</i>	
Structural analysis of Braking Energy-Conservative Systems of Transport Technological System	35
<i>V S Isakov, A V Erejskiy, A A Kvetkin</i>	
Improving the efficiency of existing methods of diagnosing the hydraulic drive of road-building machines.....	43
<i>U A Piramatov, K G Pugin</i>	
Energy-saving technology and equipment for the production of composite binder using local raw materials	50
<i>A A Romanovich, E Amini, D M Annenko, E I Chekhovskoy</i>	
The definition of force parameters when grinding materials with anisotropic texture pressure in the press roller unit.....	58
<i>A A Romanovich, E Amini, P V Trishin, E I Chekhovskoy, A S Serebrennikov</i>	
Selection of optimal vibration parameters molding reinforced concrete products	67
<i>V G Vasiliev</i>	
SN-EVM unit for experimental studies of stability in circular cylindrical shells under combined loading	72
<i>S V Cheremnykh, P O Skudalov</i>	
Modeling the process of autoclaving treatment of cellular concrete products as control object	78
<i>S Y Galitskov, K S Galitskov, A S Bolkhovetsky</i>	
Organization of recycling of construction scrap with the use of mobile crushing plants in Russia.....	87
<i>D Yu Gustov</i>	
Formation of the network of spare elements warehouses.....	95
<i>B G Kim, R A Nasrulloeva, Z N Shakir, L V Zakrevskaja</i>	

Risk factors affecting the implementation of construction projects in Iraq.....	99
<i>B G Kim, Z N Shakir, R A Nasrulloeva</i>	
Assessment of resources of road machines working in the conditions of tropical climate.....	105
<i>Vladimir Zorin, Le Tchong Tuan</i>	
Modern pedagogical education requirements for students at construction and mechanical engineering faculties.....	109
<i>P O Skudalov, S V Cheremykh</i>	
Model of infrastructure development of housing and utilities.....	113
<i>J O Kustikova</i>	
Usage of discrete element method in the research of vibrating mills with circular vibrations of the grinding chamber.....	122
<i>V S Bogdanov, S Y Lozovaya, Y M Fadin, N E Bogdanov</i>	
Ultimate loads, arising on the blade during exploitation, according to existed design positions for calculations.....	129
<i>A G Saveliev, V A Mikhailovskaya</i>	
Influence of removable anti-skid device on the soil density.....	138
<i>R L Sakhapov, M M Makhmutov</i>	
Vehicle Counting at Road Intersections Using Video Data and Zone-Based Method with Additional Contour.....	145
<i>O Ibryaeva, A Zhulev, V Shepelev, A Burzev</i>	
Innovative technology for monitoring pavements	153
<i>R Sakhapov, M Makhmutov</i>	
A Study of the Characteristics of Electric Fuel Pumps of Automobile Engines.....	159
<i>A Gritsenko, V Shepelev, K Shubenkova, M M Zemdkhanov, M H Gatiyatullin</i>	
Features of formation of gas-thermal coatings with equal thickness on flat surfaces.....	166
<i>U I Belenkiy, V I Kretinin, V A Sokolova, A V Teppoev, V A Markov, G K Parfenopulo</i>	
Influence of the tilt of the sprung elements of the construction of car cranes on cargo stability.....	173
<i>O N Mekhonin, R V Shchetkin, K G Pugin</i>	
Structural schemes analysis of road and construction machines	179
<i>A G Saveliev, V A Mikhailovskaya</i>	
Improving the efficiency and mobility of urban housing maintenance services	187
<i>D O Burkeev, A I Romanova, A A Murafa, O V Maksimchuk, A V Voronin</i>	
Evaluation of savings on operational services from innovative energy-saving materials	200
<i>A I Romanova, A V Berval, D O Burkeev, R S Safina, E V Ilyina, D A Egorov</i>	
The method of synthesis of new structural schemes of additional working equipment of the motor grader with the use of graphs and matrices	213
<i>V A Mikhailovskaya</i>	
The deformation-topographic method for the study of the tribotechnical indicators of the working bodies of rotary excavators.....	223
<i>Y I Gustov, I V Gadolina, A A Yushkov</i>	

Durability of bridge asphaltic concrete pavements under temperature loads	230
<i>I V Grishyn, G P Ivanov, R A Kayumov</i>	
Evaluation of the efficiency of roundabouts in modern cities	240
<i>A S Gavaev</i>	
Development of a finite-element model for bench testing of road fence rack.....	245
<i>I V Demiyanushko, I A Karpov, P S Mikheev, V S Nadezhdin, O V Titov, B T Tavshadze, J Awrejewicz</i>	
Optimizing the location for the enterprise recycling the forestry production waste.....	250
<i>N A Tyurin, L Ya Gromskaya, T S Antonova, V A Kalyashov, V N Artemiev</i>	
Effective system of learning for engineers	255
<i>M F Guskova, P F Sterlikov, F F Sterlikov</i>	
Methods of recruiting of mobile repair services and maintenance of machines performing reclamation works	260
<i>A S Apatenco, N S Sevryugina</i>	
Optimizing the number of anti-skid device for vehicle	265
<i>R L Sakhapov, M M Makhmutov</i>	
The relationship of microrelief indicators of the friction surfaces of mobile interfaces of construction equipment	275
<i>Y I Gustov, S Y Sletov, P E Shishkov</i>	
Open gear train as a source of oscillations of the construction machines mechanisms	281
<i>V I Skel</i>	
The method of synthesis of new structural schemes of additional working equipment of the motor grader with the use of graphs and matrices	287
<i>M L Rakhmanov, A G Saveliev, V A Mikhailovskaya, M A Kosov</i>	
Implementation of laboratory works on the modern laboratory equipment	297
<i>A N Drozdov, E R Belkina</i>	
The research of resistance to snow cutting and moving with an auger of a small-sized rotary-auger snowplow	302
<i>M F Zakirov</i>	
Improving the level of traffic service on the road network of cities	308
<i>A I Solodkiy, N V Chernik</i>	
Determination of rational cutting parameters while drilling intermediate by ring	315
<i>V P Baranchik, M F Zakirov</i>	
Methods of the building of the dynamic models of the drive machines loads with the use of system monitoring data (on example of the acceleration of the drive of the drill tool)	319
<i>A V Ashcheulov</i>	
The influence of the ratio of the vibration device's two stages' imbalances' static moments with asymmetric oscillations on the system amplification factor	328
<i>M D Gerasimov, N D Vorobev, V G Ryazantsev, Otakulov O Kh</i>	
Ensuring the safety of lifts in operation.....	333
<i>M A Stepanov, B A Kaytukov</i>	

Experimental studies of the dependence of the heterogeneity coefficient of the mixture on the technological parameters in the mixer with a variable working chamber	339
<i>N M Lozovoi, L V Radinskaya, S Y Lozovaya</i>	
Road safety strategies in the Russian Federation for 2018–2024 in Omsk Region	346
<i>M G Simul, S M Porkhacheva</i>	
Ensuring the safety of the transshipment process in river ports	351
<i>O V Leonova, A S Veretennikova, E G Veretennikov</i>	
A method for constructing standard-size series of quick couplers	361
<i>E V Duganova, N S Sevryugina, P D Kapyrin</i>	
The network patterns characteristics research as one of the factors of traffic congestion	368
<i>O V Saprykina, E A Akhmedova, K I Vinogradov</i>	
Analysis of contact parameters of large tires with soil for earthmoving machinery.....	376
<i>V A Zhulay, V L Tyunin, N M Volkov, D N Degtev</i>	
Synthesis of the six-part spatial mechanism.....	382
<i>A G Mudrov, R L Sakhapov</i>	
On complex formation in chemical copper plating processes from solutions with organophosphorus ligands	389
<i>R M Mukhametshina</i>	
Metal plating based on copper (II) complex compounds with hydroxyethylidene diphosphonic acid.....	398
<i>R M Mukhametshina</i>	
Exploring the effect of thermoplastic composition on light emission	405
<i>R L Sakhapov, R F Kashipov, M H Gatiyatullin</i>	
Formation of a system for assessing the renovation of monolithic buildings.....	412
<i>D Topchiy, A Bolotova</i>	
Use of program ANSYS in the analysis of interaction between a rigid foundation and reinforced soil	417
<i>V M Antonov, I A Al-Naqdi</i>	
Development and research of the tower for hanging supports on hop-gardens.....	423
<i>P A Smirnov, A E Makushev, A O Vasiliev, R V Andreev, A G Lozhkin, V I Medvedev</i>	
Improving the efficiency of excavators at low temperatures.....	431
<i>S A Zenkov, D Lkhanag</i>	
Vibroprotective mechanism with the quasizero stiffness for seats of operators of construction and road machines.....	436
<i>S V Tomleeva, A G Saveliev, G D Moiseev, P G Kolesnikov</i>	
Study of the influence of the driver's reaction time on the road traffic situation at a controlled intersection using simulation modeling	441
<i>R R Zagidullin</i>	
Modification of cement-bound mixtures with sodium formate additives for the construction of pavement bases at low air temperatures	446
<i>E A Vdovin, V F Stroganov</i>	

Assessment of the impact of capital construction on the adjacent street-road network with traffic at unregulated intersections	455
<i>A V Zedgenizov</i>	
Development of transport infrastructure of urban mobility based on cable metro technology	461
<i>A V Panfilov, A A Korotkiy, E A Panfilova, I A Lagerev</i>	
Intersections at different levels - an alternative solution to the development of the road network.....	475
<i>O A Loginova, R V Nikolaeva</i>	
The role of the transport infrastructure of the Republic of Tatarstan in the development of regional entrepreneurship	484
<i>S Absalyamova, T Absalyamov, C Mukhametgalieva</i>	
Road safety as a factor in the socio-economic development of the country	489
<i>R V Nikolaeva</i>	
Improving the methods of training specialists in the sphere of construction and utilities (on the example of the Volgograd region)	498
<i>E M Maznitsa, M K Belyaev, O V Maksimchuk</i>	
Ways to improve safety and environmental friendliness of the city's transport system.....	504
<i>I V Makarova, L M Gabsalikhova, G R Sadygova, K A Magdin</i>	
Development of transport infrastructure in smart cities	511
<i>I Makarova, A Boyko, I Giniyatullin, A Ahmadeeva</i>	
Alternative power resources in the motor vehicles supply	518
<i>I V Makarova, L A Gubacheva, S Andreev, A Andreev</i>	
Improving the quality of the investigation of a road traffic accident.....	525
<i>S I Tikhomirov, Y Y Komarov, V M Volchkov</i>	
Improving the methods of training specialists in the sphere of construction and utilities (on the example of the Volgograd region).....	533
<i>E M Maznitsa, M K Belyaev, O V Maksimchuk</i>	
Development of a model of the single information space of the enterprise supporting the replacement of layers.....	540
<i>B M Shifrin, I V Eliseev, V A Sokolova, V A Kalyashov</i>	
Organizational capacity of cdio syllabus in actualization of the objectives of engineering education from regional perspective	547
<i>G V Bukalova, A N Dorofeev, A N Novikov</i>	
New Way To Determine The Technical Condition Of Ball Joints	553
<i>A N Novikov, S V Eremin, A G Shevtsova</i>	
Using experience of the dynamic models of piston internal combustion engines	559
<i>I E Agureev, M Y Elagin, R N Khmelev, K Y Platonov, V A Pyshnyi</i>	
The basis of an automated design system of the packed absorber using neural networks.....	566
<i>O S Kharitonova, I V Vyatkina, V V Bronskaya, L E Khairullina, R S Shaikhedtinova, N V Kotova</i>	
Possible scope of filler beam bridges on the Russian Railways	573
<i>L K Diachenko, N A Labutin, A V Lang</i>	

Comparison of various calculation models for the bridge dynamic analysis.....	579
<i>A V Lang, L K Diachenko, N A Labutin</i>	
Comparative research of orderliness dinamics of road safety systems in the volga federal district and the Russian Federation.....	584
<i>A I Petrov, S A Evtyukov, V I Kolesov, D A Petrova</i>	
Assessment of sustainability of improving road safety process in the volga federal district.....	594
<i>A I Petrov, D A Petrova</i>	
Imitation and analytical approaches to assessment of condition and modeling of city transport system nodes.....	600
<i>E A Mamaev, N A Kovaleva, A I Khashev, O V Mullenko</i>	

Author Index