

CAD in Machinery Design: Implementation and Educational Issues (CADMD 2020)

XXVIII International Ukrainian-Polish
Scientific and Technical Conference

IOP Conference Series: Materials Science and Engineering
Volume 1016

Lviv, Ukraine
26 - 27 November 2020

Editors:

Mykhailo Lobur
Nazariy Jaworski

ISBN: 978-1-7138-3306-2
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. (2021)

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

MATHEMATICAL MODELING OF BOUNDARY STRESS STATE OF ORTHOTROPIC MATERIAL	1
<i>Sofia Holovata, Yaroslav Sokolovskyy, Bohdan Pobereyko, Andriy Holovatyy</i>	
DESIGN OF PARALLEL SORTING SYSTEM USING DISCRETE-TIME NEURAL CIRCUIT MODEL.....	8
<i>Pavlo V Tymoshchuk</i>	
PCB OPEN, SHORT AND SHIFT DEFECTS DETECTION BY LOGICAL COMPARISON OF MASK IMAGES	14
<i>R A Melnyk, Yu V Havrylko, Ya V Repa</i>	
METHODS OF DETERMINING TRAJECTORY FOR WHEELCHAIR WITH MANUAL PUSHRIMS DRIVE.....	23
<i>B Wieczorek</i>	
LESSON LEARNED FROM SEMESTER OF ONLINE TEACHING OF AUTOMATION USING SIMULATORS	30
<i>I Ostrowski, J Możaryn, J Wang, D Cukier</i>	
DEVELOPMENT AND MODELING OF REMOTE LABORATORY WORKS FOR ENGINEERING EDUCATION.....	37
<i>B B Sus, S P Zagorodnyuk, O S Bauzha, A Kozinetz</i>	
THE GOLDEN RATIO REGULARITIES OF DECAYED OSCILLATIONS.....	47
<i>P Kosobutskyy, N Jaworski, I Farmaha, U Marikutsa, M Iwaniec</i>	
MATHEMATICAL MODEL OF RHEOLOGICAL BEHAVIOR OF WOOD PLATE TAKING INTO ACCOUNT THE ZONE OF EVAPORATION OF MOISTURE	53
<i>Ya Sokolovskyy, I Boretska, I Kroshnyy, S Yatsyshyn, O Storozhuk</i>	
DESIGN MODEL FOR DETERMINATION OF THE STRENGTH FIBER-REINFORCED CONCRETE.....	60
<i>Viktor Sylovanyuk, Riy Lisnichuk, Kostiantyn Kolesnyk, Roman Panchak</i>	
MODELING ISSUES IN PROBLEMS OF THE ELASTICITY AND VISCOELASTICITY THEORY.....	66
<i>T Kagadiy, A Shporta, I Scherbina, O Onopriienko</i>	
EXPERIMENTAL MODEL OF A MOBILE PLATFORM FOR MOVING ON ORTHOGONAL ROUTES	72
<i>Vitaliy V Mazur, Sofiia T Panchak</i>	
A UNIT FOR INFLATING AND MAINTAINING A CONSTANT PRESSURE IN THE TIRES DURING THE MOVEMENT OF A SLOW-MOVING VEHICLE.....	80
<i>KJ Waluś, M Kozłowski</i>	
DIAGNOSTICS OF THE THERMAL CONDITION OF THE CABLE GEAR USED IN THE DRIVE OF A WOOD CHIPPER	89
<i>P Krawiec, Ł Warguła, L Różański</i>	

DEVELOPMENT OF IOT WEATHER MONITORING SYSTEM BASED ON ARDUINO AND ESP8266 WI-FI MODULE	99
<i>Andriy Holovatyy</i>	
SIMULATION OF THE PROCESSES IN ELECTRICAL ENGINEERING SYSTEMS VIA THE TWO-POINT PROBLEM FOR TELEGRAPH EQUATION.....	109
<i>Z Nytrebych, O Malanchuk</i>	
INFORMATION TECHNOLOGY OF ROBOTIC PROSTHESIS COMPUTER-AIDED DESIGN BASED ON PARAMETRIC MODELING	117
<i>A V Parkhomenko, O M Gladkova, Y I Zalyubovskiy, A V Parkhomenko</i>	
THE USE OF CELLULAR AUTOMATA IN THE STUDY OF HEAT AND MASS TRANSFER PROCESSES IN PARTICULAR DURING WOOD DRYING.....	121
<i>Ya Sokolovskyy, O Sinkevych, M Levkovych, V Shymanskyi, V Yarkun</i>	
ISSUES WITH BELT GUIDANCE AND DEVICE CONTROLS IN THE AUTOMATED CONVEYOR AND DRIVE BELT PERFORATION PROCESS.....	128
<i>D Wojtkowiak, K Talaška, G Domek, D Wilczyński, J Górecki</i>	
USE OF METHODS AND TECHNOLOGIES OF ADDITIVE PRODUCTION FOR OPTIMIZATION OF PARAMETERS OF DESIGNS	136
<i>A Zdobytskyi, M Lobur, T Klymkovych, R Kaczynski, A Vasiliev</i>	
THE USE OF INFORMATION SYSTEMS FOR REGULATION OF GAS ENGINE OPERATING PARAMETERS	145
<i>A Kalwar, F Kurdziel, K Pytel, S Gumula, M Lobur, M Melnyk</i>	
ANALYSIS OF THE POSSIBILITIES OF USING AUTOMATIC CONTROL SYSTEMS FOR OPERATING GAS ENGINES FOR A CHILLED WATER PRODUCTION	153
<i>F Kurdziel, A Kalwar, K Pytel, S Gumula, U Marikutsa, D Korpyljov</i>	
SIMULATION AND ANALYSIS OF THE INTERDIGITAL TRANSDUCERS SURFACE ACOUSTIC WAVES GENERATION AND PROPAGATION IN ACOUSTOPHORETIC LAB-CHIP.....	160
<i>O Matviykiv, T Klymkovych, N Bokla, V Stakhiv</i>	
EXPERIMENTAL STUDY OF THE TIME OF REVERBERATION OF A SACRED BUILDING HAVING A CRUCIFORM ARCHITECTURE.....	166
<i>M Melnyk, A Kernyskyy, Y Mykhalyna, K Pytel</i>	

Author Index