10th International Conference on Advanced Manufacturing Technologies (ICAMaT 2019)

IOP Conference Series: Materials Science and Engineering Volume 682

Bucharest, Romania 10 - 11 October 2019

ISBN: 978-1-7138-0934-0

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. (2020)

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

INTEGRATED PRODUCT DEVELOPMENT

ON THE ESTIMATION OF THE RELIABILITY PROBABILISTIC MODEL OF RAILWAY	
WHEELSET	1
AN ANALYSIS OF VEHICLE - RAILWAY EXCHANGER INTERACTION	7
INFLUENCE OF SPIN CREEPAGE ON CONTACT PATCH	16
CRITICAL POINTS NUMERICAL ANALYSIS OF RIDE COMFORT OF THE FLEXIBLE RAILWAY CARBODY	23
ANALYSIS ON THE MEASUREMENT RESULTS OF THE PRECISION GRADES AND THEIR INFLUENCE ON THE PERFORMANCE OF THE HYDRAULIC PUMPS WITH SPUR GEARS	22
I G Ghionea, A L Ghionea, S Čuković, M I Pleşa	33
STRATEGIC OUTLOOK IN INDUSTRIAL DESIGN ASSESSMENT BASED ON PRODUCT CATEGORY	43
THE VIBRATION BEHAVIOUR OF A FREIGHT WAGON IN THE PRESENCE OF IRREGULARITIES OF THE TRACK	49
THEORETICAL CALCULUS OF THE MECHANICAL STRENGTH OF BINARY OXIDE GLASSES	59
M Eftimie, A Filip, A Banu	
FLEXIBLE AND INTELLIGENT MANUFACTURING SYSTEMS	
EXPERIMENTAL ANALYSIS OF AZ31B MAGNESIUM ALLOY SHEET FAILURE USING PUNCH STRETCHING	67
C Grigoras, B Chirita, G Brabie, C Ciofu	07
APPLICATIONS OF PIEZOELECTRIC MFC TYPE TRANSDUCERS IN MECHATRONIC MEASUREMENT SYSTEMS - THE IMPACT OF A MECHANICAL SUBSYSTEM DAMAGE ON A SYSTEM OPERATION	73
ASPECTS ON THE STUDY OF NONLINEAR VIBRATION PHENOMENON IN FRICTION WELDING WITH ROTATING ACTIVE ELEMENT	81
USE OF THE ISHIKAWA DIAGRAM IN THE INVESTIGATION OF SOME INDUSTRIAL PROCESSES	87
C Botezatu, I Condrea, B Oroian, A Hrițuc, M Ețcu, L Slătineanu	

THE INFLUENCE OF ADDITIVE MANUFACTURING PARAMETERS ON THE STRUCTURAL AND MECHANICAL PROPERTIES OF ACRYLONITRILE BUTADIENE STYRENE (ABS) PARTS PRODUCED BY FUSED FILAMENT FABRICATION	94
ALUMINUM BASED METASTABLE ALLOYS FOR ADDITIVE MANUFACTURING	102
ASSESSING THE INFLUENCE OF SIGNIFICATIVE PARAMETERS USED IN 3D FUSED FILAMENT DEPOSITION	108
EXPERIMENTAL RESEARCHES CONCERNING THE MANUFACTURE OF MULTITOOL 3D PRINTER, TYPE DIY (DO IT YOURSELF)	116
LEAN BUSINESS PRACTICE AS SUPPORT TO QMS IMPLEMENTATION IN ACCORDING TO ISO 9001:2015	124
PROCESS PLANNING SOLUTION FOR INCREASING THE PRODUCTIVITY AND ROBUSTNESS OF WORK SCHEDULES FOR BATCH PRODUCTION PROCESSES	132
INDOOR PATH PLANNING AND OBSTACLE AVOIDANCE SIMULATION	140
DEVELOPMENT OF KEY PERFORMANCE INDICATORS MODULES FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN PRODUCTION INDUSTRY	150

Author Index