

4th International Symposium on Mechanics, Structures and Materials Science (MSMS 2023)

MATEC Web of Conferences Volume 380 (2023)

Tianjin, China
30 - 31 March 2023

Editors:

**Jun Xiao
Xinwang Wu**

ISBN: 978-1-7138-7341-9

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 4.0 International License. License details:
<http://creativecommons.org/licenses/by/4.0/>.

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. (2024)

For additional information, please contact EDP Sciences – Web of Conferences at the address below.

EDP Sciences – Web of Conferences
17, Avenue du Hoggar
Parc d'Activité de Courtabœuf
BP 112
F-91944 Les Ulis Cedex A
France

Phone: +33 (0) 1 69 18 75 75
Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.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

Research on Tangential Velocity Solution and Accuracy Analysis of Radar Target	1
<i>Yin Qi, Sun Zepeng, Li Yangmeng, Hou Yujie</i>	
Design of Parts Flexible Palletizing System.....	6
<i>Yang Yuan, Qiang Ligang, Zhang Yong, Yang Xudong</i>	
Cause Analysis and Process Optimization of Non Uniformity of FRP Anti Current Vibration Carrier Shell.....	10
<i>Liu Yanqiong, Wu Ji, Hou Peng, Wang Wenguan, Men Lijie</i>	
Research on Seismic Behavior of Prefabricated Building Joints in China	14
<i>Zhang Hejun</i>	
Simultaneous Determination of Nicotinamide, Kojic Acid, Tranexamic Acid, Raspberry Glycoside, Azelaic Acid, Magnesium Ascorbate Phosphate and α -Arbutin in Whitening Cosmetics by UPLC-MS/MS	17
<i>Zou Xiao, Yan Lixiu, Luo Xiaofang, Wang Enting, Zhang Mingjuan, Huang Wuping, Li Wulin, Tong Lanyan</i>	
Research and Development of Intelligent Drying Detection Technology for Machine-Made Sand.....	21
<i>Jia Shaoying, Zhang Xiong, Lu Yelin</i>	
Numerical Analysis on Shock of Double-Layer Plate with Foamed Aluminum	25
<i>Wang Peng, Huang Wei, Li Zhao, Zhang Hao</i>	
Study on Preparation and Slow Release Properties of Magnesium-Al Hydrotalcite with Alanine Intercalation.....	28
<i>Feng Simin, Liu Qing, Wei Jing</i>	
Design of a NC Machine Tool for Machining that is Easy to Change Cutting Tools	33
<i>Wan Zhiqiang, Zhang Qingqing</i>	
Recycling of Detoxification Wastewater from Semen Armeniacae Amarum.....	36
<i>Liu Ke, Ren Yiyang, Li Yongsheng</i>	
Electronic Properties of MTe ₂ /AsI ₃ (M=Mo and W) Van Der Waals Heterostructures.....	40
<i>Liu Zixiang, Wang Zhiguo</i>	
Application of Alkyl Amidopropyl Betaine in Fire Fighting Foam Extinguishing Agent	43
<i>Zhang Jiancheng, Shi Zeyao, Zhang Meiqi, Wu Liusuo</i>	
Research on the Optimization of Electrochemical Behavior Model in the Environment of Novel Composite Fuel Cell	47
<i>Chen Ling, Han Caibao, Wang Chunxia, Zhu Ting</i>	
Study on Ternary Blend Organic Solar Cells Based on Multiple Non-Fullerene Acceptors	51
<i>Wang Meng</i>	
Numerical Analysis on Natural Vibration of Cylindrical Shell with Different Cross-Section.....	59
<i>Wang Peng, Niu Qingyong, Liu Min, Li Zhao, Cao Xiaoming, Zhang Hao</i>	
Defect Detection of Aluminum Profiles Based on Improved Feature Pyramids	62
<i>Wang Jie, Zhang Yan Sha, Pan Feng, Wang Lin</i>	

Study of Unconfined Compressive Experiment on the Geogrid Flexible Reinforced Compound	68
<i>Tong Jintian, Wang Wei</i>	
Design of Double-Layered Framed Plate with Equivalent Impedance.....	71
<i>Li Zhao, Zhang Hao, Niu Qingyong, Wang Peng, Cao Xiaoming</i>	
Influence of Frame Weld on Mechanic Performance of Double-Walled Shell.....	74
<i>Wang Peng, Li Zhao, Niu Qingyong, Zhang Hao, Cao Xiaoming</i>	
Research and Development of Intelligent Cleaning and Mud Content Detection Technology for Machine-Made Sand.....	77
<i>Jia Shaoying, Zhang Xiong, Lu Yelin</i>	
Dynamic Simulation of Theoretical Mechanics Experiments Using Maple.....	82
<i>Gong Yanxiang, Guo Juan, Li Feng</i>	
Influence of External Load on Forced Vibration of Rectangular Plate.....	85
<i>Wang Peng, Zhang Hao, Niu Qingyong, Cao Xiaoming, Liu Min</i>	
Robust Attitude Control of Helicopters with Three-Degree Freedom Based on Intermittent Event- Triggered Mechanism.....	89
<i>Zhang Chaoyang</i>	
Analysis and Discussion on Tension of Long Transport Belt.....	96
<i>Mu Haojie</i>	
Feasibility Study of Longitudinal Transportation.....	100
<i>Shu Zhejun, Mu Haojie</i>	
Multifunctional Properties and Applications of Ultra-Light Porous Metal Materials	104
<i>Chen Jianru, Zhang Da</i>	
Comparisons of Design Schemes for the Upper Beam Support at East Cable Tower of Lingdingyang Bridge on Shenzhen-Zhongshan Link	108
<i>Yang Suhai, Zhao Jun, Li Zhen, Luo Lulu</i>	
Research on Modal Test for a Double-Layered Stiffened Plate in Water	112
<i>Wang Peng, Li Zhao, Chen Jiandong, Li Wei, Zhang Hao</i>	
Feasibility Study on Construction of RCC Gravity Dam Under Special Climatic Conditions in Tibet	115
<i>Pu Ning, Wang Jingyu, Zhong Weibin, Zheng Nan, Ren Jinming</i>	
Design and Mechanical Analysis of Shear Thickening Fluid/polyurethane Composite Sandwich	119
<i>Cong Hua, Zhao Mingmei, Zhang Jinqiu, Liu Yile</i>	

Author Index