

# **7th International Conference on Engineering Mathematics and Physics (ICEMP 2018)**

MATEC Web of Conferences Volume 186 (2018)

Prague, Czech Republic  
15 – 18 January 2018

## **Editors:**

**H. Akca**  
**R. Luca Tudorache**  
**L. Abdullah**

ISBN: 978-1-5108-6860-1

**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 license:  
<http://creativecommons.org/licenses/by/2.0/>

**You are free to:**

**Share** – copy and redistribute the material in any medium or format.

**Adapt** – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

**Under the following terms:**

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2018)

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](mailto: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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>STUDY OF CIRCULATION DRIVE IN HIGH-SPEED ROTATING FLOW FIELD</b> .....	1
<i>Fan Xu, Ran Bo</i>	
<b>ELECTROMAGNETIC RADIATION FROM THE GEOMETRICAL POINT OF VIEW</b> .....	5
<i>Dmitriy Divakov, Mikhail Malykh, Anastasiia Tiutiunnik</i>	
<b>A NEW EXPLANATION FOR THE COLOR VARIETY OF PHOTONS</b> .....	9
<i>Saleh Gh., Faraji M. J., Alizadeh R., Dalili A.</i>	
<b>SOLVING BATEMAN EQUATION FOR XENON TRANSIENT ANALYSIS USING NUMERICAL METHODS</b> .....	14
<i>Ding Zechuan</i>	
<b>NATURAL QUBIT MATRIX OF PRIMARY ELEMENTS OF MATTER</b> .....	20
<i>Machusky Eugene</i>	
<b>AN OVERLAPPING AND INTEGRAL BLURRY EVALUATION METHOD TO OPTIMIZE TISSUES SCANNING FROM MICROSCOPE</b> .....	25
<i>Bayuelo Jaishir, Sanjuan Javier, Yepes-Martinez Julián, Tovar Wilson, Zapata Fabio, Peñaloza Giselle</i>	
<b>TRANSFORMATION THERMODYNAMICS WITH ARBITRARILY SHAPED NON-CONFORMAL OBJECTS AND COATINGS</b> .....	30
<i>Ji Qingxiang, Fang Guodong, Liang Jun</i>	
<b>THERMAL ANOMALIES DETECTION USING COMPARATIVE METHOD FOR SMALL EARTHQUAKE</b> .....	34
<i>Wongpornchai Pisanu, Suwanprasit Chanida</i>	
<b>SYMBOLIC-NUMERIC COMPUTATION OF THE EIGENVALUES AND EIGENFUNCTIONS OF THE LEAKY MODES IN A REGULAR HOMOGENEOUS OPEN WAVEGUIDE</b> .....	39
<i>Divakov Dmitriy, Tiutiunnik Anastasiia, Sevastianov Anton</i>	
<b>ALGORITHM FOR NUMERICAL SOLUTION OF DIFFRACTION PROBLEM ON THE JOINT OF TWO OPEN THREE-LAYER WAVEGUIDES</b> .....	43
<i>Divakov Dmitriy, Tiutiunnik Anastasiia, Sevastianov Anton</i>	
<b>EFFECT OF ANNEALING PROCESS ON THE MECHANICAL PROPERTIES OF X70 PIPELINE STEEL</b> .....	48
<i>Zhu Teng-Wei, Miao Cheng-Liang, Cheng Zheng, Wang Zhipeng, Cui Yang, Li Fei</i>	
<b>EFFECT OF SHEAR DEFORMATION ON TEXTURE EVOLUTION IN ROLLED PURE TITANIUM</b> .....	54
<i>Yang Huanping, Wang Yaomian</i>	
<b>STRENGTH DEVELOPMENT AND MICROSTRUCTURE OF ALKALI-ACTIVATED SLAG-MGO IN AIR CURING CONDITION</b> .....	58
<i>Hwang Chao-Lung, Vo Duy-Hai, Yehualaw Mitiku Damtie, Tran Vu-An</i>	
<b>COMPARISON STUDY OF DYNAMIC ELASTIC MODULI OF CEMENT MORTAR AND NO-CEMENT SLAG BASED CEMENTITIOUS MORTAR ACTIVATED WITH CALCINED DOLOMITE WITH IMPULSE EXCITATION TECHNIQUE</b> .....	63
<i>Djayaprabha Herry Suryadi, Chang Ta-Peng, Shih Jeng-Ywan</i>	
<b>DAMAGES ASSESSMENT OF CEMENT-PASTE AND COBBLESTONE INTERFACIAL TRANSITION ZONE BY ACOUSTIC EMISSION</b> .....	68
<i>Nguyen-Tat Tam, Tran Trung-Hieu, Ranaivomanana Narintsoa, Balayssac Jean-Paul</i>	
<b>PARAMETERS ANALYSIS FOR BENDING PROPERTIES OF EXTERNALLY PRESTRESSED CONCRETE BEAM WITH CORRUGATED STEEL WEBS</b> .....	73
<i>Xu Qiang, Song Jianyong, Feng Jianxiang, Du Jinsheng</i>	
<b>PERFORMANCE OF GLAZING MATERIALS FOR ATRIUM IN HOT &amp; HUMID CLIMATE</b> .....	78
<i>Suhendri, Sumanda Wahri, Budiarto Rachmawan</i>	
<b>WIND FRAGILITY FOR SIGN STRUCTURE IN KOREA WITH CHEMICAL ANCHOR CONNECTION</b> .....	84
<i>Sim Viriyavudh, Kim Seongdo, Jung Wooyoung</i>	
<b>EFFECT OF TI ADDITION TO AGE HARDENING RESPONSE OF AL-10ZN-6MGXTI ALLOY PRODUCED BY SQUEEZE CASTING</b> .....	89
<i>Nurcahyaningtih Dwi Ayu, Wijanarko Risly, Angela Irene, Tiara Sofyan Bondan</i>	
<b>EFFECT OF MECHANICAL LOAD ON DEFECTS LEVEL IN SOFT FERRITE CERAMICS</b> .....	95
<i>Petrova A. B., Malyshev A. V., Surzhikov A. P.</i>	
<b>Author Index</b>	