2nd International Conference on Rheology and Modeling of Materials 2015 (IC-RMM2)

Journal of Physics: Conference Series Volume 790

Lillafured, Hungary 5 - 9 October 2015

ISBN: 978-1-5108-3678-5 ISSN: 1742-6588 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.

Copyright© (2015) by the Institute of Physics All rights reserved. The material featured in this book is subject to IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2017)

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

Volume 790

2nd International Conference on Rheology and Modeling of Materials (IC-RMM2)5–9 October 2015, Lillafüred, Hungary

Accepted papers received: 7 December 2016 Published online: 16 February 2017

Preface

011001 OPEN ACCESS 2nd International Conference on Rheology and Modeling of Materials (IC-RMM2)

011002 OPEN ACCESS Peer review statement

Papers

012001 OPEN ACCESS Rheo-mechanical model for self-healing asphalt pavement

A L Gömze and L N Gömze 1

012002 OPEN ACCESS Dynamical properties of the brain tissue under oscillatory shear stresses at large strain range

F Boudjema, B Khelidj and M Lounis.....10

012003 OPEN ACCESS Effect of crystallographic orientations of grains on the global mechanical properties of steel sheets by depth sensing indentation

P Burik, L Pesek, P Kejzlar, Z Andrsova and P Zubko.....16

012004 OPEN ACCESS Effect of mechanical treatment on properties of zeolites with chabazite structure

A Y Buzimov, S N Kulkov, W Eckl, S Pappert, L A Gömze, E Kurovics, I. Kocserha and R. Géber....23

012005 OPEN ACCESS Rheological characterization of geopolymer binder modified by organic resins

M Cekalová, T Kovárík and D Rieger.....28

012006 OPEN ACCESS Filling behaviour of wood plastic composites

I Duretek, T Lucyshyn and C Holzer.....32

012007 OPEN ACCESS Material flow data for numerical simulation of powder injection molding

I Duretek and C Holzer.....41

012008 OPEN ACCESS Rheological study of copper and copper grapheme feedstock for powder injection molding

N Emira Binti Azaman, M Rafi Raza, N Muhamad, M Niaz Akhtar and A Bakar Sulong.....54

012009 OPEN ACCESS Microstructural and rheological analysis of fillers and asphalt mastics

R Geber, A Simon, I Kocserha and A Buzimov.....62

012010 OPEN ACCESS Calibration problems with the viscosity measurement of liquid metallurgical slags

H P Heller, M Schürmann, K Scholl, N Haustein, B Lychatz and J Falkus.....70

012011 OPEN ACCESS Modification of the rheological properties of screen printing ceramic paints containing gold

P Izak, J Mastalska-Poplawska, J Lis and A Stempkowska.....75

012012 OPEN ACCESS Modelling of powder consolidation using electro heating assisted by mechanical loading

A Knyazeva and S Sorokova.....84

012013 OPEN ACCESS Characterisation of the wall-slip during extrusion of heavy-clay products

I Kocserha, A L Gömze, S Kulkov, E Kalatur, S P Buyakova, R Géber and A Y Buzimov.....91

012014 OPEN ACCESS Mesoscopic Rhelogical Model for Polymeric Media Flows

K Koshelev, A Kuznetcov, D Merzlikina, G Pyshnograi, I Pyshnograi and M Y Tolstykh.....98

012015 OPEN ACCESS Zirconia-Based Powders Produced by Plasma-Spray Pyrolisys and Properties of Sintered Ceramics

S N Kulkov, S Buyakova and L A Gömze.....103

012016 OPEN ACCESS Rheological behaviour of egg white and egg yolk from different poultry specimen

V Kumbár, Š Nedomová, J Votava and J Buchar....112

012017 OPEN ACCESS Rheological Characterisation of the Flow Behaviour of Wood Plastic Composites in Consideration of Different Volume Fractions of Wood

N Laufer, H Hansmann and M Koch.....120

012018 OPEN ACCESS Investigation of the stress distribution around a mode 1 crack with a novel strain gradient theory

M Lederer and G Khatibi 129

012019 OPEN ACCESS On the relation between the energy of a distorted crystal lattice and the bending modulus of strain gradient elasticity

M Lederer and G Khatibi.....135

012020 OPEN ACCESS Concentration fields of the ternary systems and trajectory of phases in T-x-y Diagrams

V Lutsyk and A Zelenaya.....141

012021 OPEN ACCESS Effect of silicate module of water glass on rheological parameters of poly(sodium acrylate)/sodium silicate hydrogels

J Mastalska-Popiawska and P Izak.....147

012022 OPEN ACCESS Premixes production for synthesis of wear-resistant composite materials

Yu V Kontsevoi, A G Meilakh, A B Shubin, E A Pastukhov, A V Dolmatov and I S Sipatov.....154

012023 OPEN ACCESS Substantiation of Reference Method For Determining Concrete's Freeze-Thaw Resistance

S Nikolskiy and O Pertseva.....160

012024 OPEN ACCESS Wall Effects induced by Ceramic in Quiescent Liquids

L Noirez and P Baroni.....165

012025 OPEN ACCESS Numerical analysis of extensional flow through the pharyngeal duct

M Preciado-Méndez, M Salinas-Vázquez, W Vicente, E Brito-de la Fuente and G Ascanio.....171

012026 OPEN ACCESS Evaluation of thermal degradation of polymer based electronic materials by nondestructive testing

P Rafiee, G Khatibi, M Lederer and M Zehetbauer.....181

012027 OPEN ACCESS Rheological properties of poly(vinyl alcohol) (PVA) derived composite membranes for fuel cells

T Remiš.....186

012028 OPEN ACCESS Rheological characterization of modified foodstuffs with food grade thickening agents

I Reyes-Ocampo, JP Aguayo-Vallejo, G Ascanio and MS Córdova-Aguilar....190

012029 OPEN ACCESS Hardening kinetics investigation of alkali-activated binder by small amplitude oscillatory rheometry

D Rieger, L Kullová, M Čekalová and T Kovářík.....194

012030 OPEN ACCESS Mechanically activated fly ash as a high performance binder for civil engineering

D Rieger, L Kullová, M Čekalová, P Novotný and M Pola.....198

012031 OPEN ACCESS Magnetorheology of dimorphic magnetorheological fluids based on iron nanorods

M Sedlacik and V Pavlinek.....202

012032 OPEN ACCESS How far are rheological parameters from amplitude sweep tests predictable using common physicochemical soil properties?

N Stoppe and R Horn.....209

012033 OPEN ACCESS Solvents of pus-medicines with physical-chemical aggressive action

A Urakov, N Urakova, A Reshetnikov, M Kopylov and L Chernova.....219

012034 OPEN ACCESS Temperature and blood rheology in fingertips as signs of adaptation to acute hypoxia

A Urakov, N Urakova, A Kasatkin and V Dementyev.....228

012035 OPEN ACCESS Measurement of whole blood of different mammalian species in the oscillating shear field: influence of erythrocyte aggregation

U Windberger, Ch Pöschl, S Peters, J Huber and R van den Hoven.....238

012036 OPEN ACCESS Clay-cement suspensions - rheological and functional properties

L Wojcik, P Izak, J Mastalska-Poplawska and M Gajek.....246

012037 OPEN ACCESS Effect of crosslinker length on the elastic and compression modulus of poly(acrylamide) nanocomposite hydrogels

J Zaragoza, A Chang and P Asuri.....253