



# THERMOPHYSICS 2014

October 8th - 10th 2014, Guesthouse Adam, Podkylava 188, Slovak Republic

## Conference programme

October 8<sup>th</sup> – 10<sup>th</sup> 2014

19<sup>th</sup> annual meeting of the Thermophysical Society and Working Group of the Slovak Physical Society





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October 8th - 10th 2014, Guesthouse Adam, Podkylava 188, Slovak Republic

## October 8<sup>th</sup> 2014 Wednesday

13:00 – 14:45 Conference registration

13:00 Lunch

15:00 Conference opening - V.Boháč

*Measurement problems*

*chairman Wolfgang Hohenauer*

15:10 Invited lecture (30 minutes)

*Proc.page*

**Silas E. Gustafsson**

POSSIBLE WAYS OF MEASURING THE THERMAL TRANSPORT PROPERTIES OF ANISOTROPIC MATERIALS (KEY LECTURE)

12

15:40 Lectures (3 x 20 minutes) (to 16:00)(to 16:20)(to 16:40)

**Tuncay YILMAZ, Sebnem TAVMAN**

DETERMINATION AND OPTIMIZATION OF EFFECTS OF SONICATION ON THERMAL PROPERTIES OF PLANT CELL WALL POLYSACCHARIDES

*Not in Proc. – full text send after deadline*

**Ismail Hakkı Tavman and Tuba Evgin**

PREPARATION AND MEASUREMENT OF THERMAL CONDUCTIVITY AND HEAT CAPACITY OF ALUMINUM PARTICLE FILLED HIGH DENSITY POLYETHYLENE NANOCOMPOSITES

*Not in Proc.*

**Olena Kraieva, Carlos M. Quintero, Gábor Molnar, Michel Mortier, Lionel Aigouy and Christian Bergaud**

INVESTIGATION OF LUMINOPHORES FOR HIGH SPATIAL AND TEMPORAL RESOLUTION THERMOMETRY

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16:40 COFFEE BREAK (20 minutes)

*Building materials*

*chairman Janusz Zmywaczyk*

17:00 Lectures (4 x 20 minutes)(to 17:20)(to 17:40)(to 18:00) (to 18:20)

**Zbyšek Pavlík, Jan Fořt, Robert Černý**

EXPERIMENTAL ASSESSMENT OF HYGROTHERMAL FUNCTION OF A BRICK BUILDING ENVELOPE EXPOSED TO WINTER CLIMATIC CONDITIONS

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**Zbyšek Pavlík, Martina Záleská, Milena Pavlíková, Lukáš Fiala, Robert Černý**

THERMAL PROPERTIES OF CEMENT BASED COMPOSITES WITH INCORPORATED CRUSHED WASTE POLYPROPYLENE

25

**Vratislav Tydlitát, Zbyšek Pavlík, Viviana F. Rahhal, Edgardo F. Irassar**

SAMPLES PREPARATION FOR CALORIMETRIC MEASUREMENT OF HYDRATION HEAT USING SOLID/SOLID MIXING

125

**Ján Ondruška, Igor Štubňa**

KINETICS ANALYSIS OF LARGE CERAMIC SAMPLES USING ISOTHERMAL THERMOGRAVIMETRY

83

18:30 DINNER





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**October 9<sup>th</sup> 2014**

*Theoretical problem*

*chairman Bimal Sarkar*

**9:00 Invited lecture (30 minutes)**

*Proc. page*

**Jerzy Bodzenta**

QUANTITATIVE THERMAL MEASUREMENTS WITH NANOFABRICATED THERMAL PROBES 13

**9:30 Lectures (3x 20+2x15 minutes) (to 9:50)(to 10:10)(to 10:30)(to 10:45) (to 11:00)**

**Ivan Baník, Gabriela Pavlendová**

BARRIER-CLUSTER-HEATING MODEL AND PHOTOLUMINESCENCE QUENCHING IN DISORDERED SEMICONDUCTORS 16

**S. Lakel, M. Ibrir, K. Almi**

THEORETICAL CALCULATIONS OF THE ELASTIC AND THERMODYNAMIC PROPERTIES OF HEXAGONAL LITHIUM PHOSPHIDE 75

**Jiří Vala, Petra Jarošová**

COMPUTATIONAL EVALUATION OF THERMAL CONDUCTIVITY AND DIFFUSIVITY USING THE BOUNDARY INTEGRAL TECHNIQUE 131

**Vlastimil Boháč, Peter Dieška, Viliam Vretenár, Danica Fidiriková**

ANALYSIS OF THE MEASUREMENT REGIME FOR THE TUFF STONES USING CYLINDRICAL GEOMETRY FOR PULSE TRANSIENT METHOD. 154

**Viliam Vretenár, Vlastimil Boháč**

NUMERICAL ANALYSIS OF MESUREMENT REGIME FOR HOT BALL METHOD. *Not in Proc.*

**11:00 COFFEE BREAK (10 minutes)**

*Thermal analysis*

*chairman Gabriela Pavlendová*

**11:10 Lectures (1x30 + 3 x 20 minutes) (to 11:40)(to 12:00)(to 12:20)(to 12:50) (to 13:10)**

**Jaroslav Kolečka**

THERMAL ANALYSIS INSTRUMENTS *Not in Proc.*

**Tomasz Ślęzak, Janusz Zmywaczyk, Piotr Koniorczyk, Lucjan Śniezek**

DILATOMETRIC INVESTIGATION OF THE PHASE TRANSITION IN THE HIGH STRENGTH STEEL S960QL 120

**Janusz Zmywaczyk, Piotr Koniorczyk, Marcin Ceg<sup>3</sup>a, Jacek Borkowski**

THERMO-MECHANICAL ANALYSIS OF SELECTED SOLID ROCKET PROPELLANT 146

**Ján Hudec, Vladimír Štofanič, Ľudovít Kubičár**

WIRELESS DEVICE FOR MONITORING THE TEMPERATURE-MOISTURE REGIME IN SITU 171

**Zbyšek Pavlík, Igor Medved', Jaromír Žumár, Milena Pavlíková, Robert Černý**

THEORETICAL FORMULAS FOR APPROXIMATION OF SORPTION ISOTHERMS OF CHOSEN BUILDING MATERIALS 89

**13:15 LUNCH**

**13:45 CULTURAL PROGRAMME**

**19:00 SOCIAL PROGRAMME**





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## October 10<sup>th</sup> 2014

### *Theoretical methods, Thermal properties of materials*

*chairman Sebnem Tavman*

#### 9:00 Invited lecture (30 minutes)

**Olivier Fudym**

BAYESIAN INVERSE METHODS FOR THE THERMAL CHARACTERIZATION OF HETEROGENEOUS MATERIALS (KEY LECTURE) 15

#### 9:30 Lectures (4 x 20 minutes), (to 9:50) (to 10:10) (to 10:30) (to 10:50))

**B. K. Sarkar, G. Pavlendova, I. Banik, Deviprasadh PS**

THERMAL AND OPTICAL PROPERTIES OF CD1-XZNXSE SEMICONDUCTOR FROM PHOTOACOUSTIC MEASUREMENT 105

**Hohenauer Wolfgang, Lager Daniel**

THERMOPHYSICS OF THE SORPTION STORAGE MATERIAL CaCl<sub>2</sub> – ZEOLITE COMPOSITE 41

**Ján Hudec, Peter Dieška, Vladimír Štofanič, Viliam Vretenár, Ľudovít Kubičár**

MEASURING RELIABILITY AND ACCURACY ANALYSIS OF THE HOT-BALL SENSOR 47

**Petra Rozehnalová, Anna Kučerová, Petr Štěpánek**

MATHEMATICAL MODELING OF PROCESSES PROCEEDING IN CONCRETE DURING FIRE 97

#### 10:50 COFFEE BREAK (20 minutes)

### *Dynamic methods*

*chairman Igor Medved'*

#### 11:10 Lectures (5x 20 minutes), (to 11:30)(to 11:50)(to12:10)(to12:30) (to12:50)

**Miloud Ibrir, Said Lakel and Saadi Berri**

FIRST PRINCIPLES STUDY ON THE THERMODYNAMIC PROPERTIES OF Fe<sub>2</sub>B 61

**Peter Šín, Anton Trník, Rudolf Podoba, Igor Štubňa**

MECHANICAL PROPERTIES OF ALUMINA PORCELAIN AFTER FIRING 112

**Ol'ga Koronthályová, Lubomír Bágel'**

EFFECT OF SALT CONTAMINATION ON DRYING RATE OF CERAMIC BRICK 67

**Lucie Trhlíková, Lenka Dohnalová, Kateřina Valentová, Oldřich Zmeškal**

THERMAL PROPERTIES OF COLLOIDS 139

**Vlastimil Boháč, Viliam Vretenár, Danica Fidiríková, Peter Dieška, Lenka Kralovičová, Tatiana Durmeková, Ján Vlčko**

PREPARATION AND CALIBRATION OF MOISTURE SENSORS FOR THE IN-SITU MONITORING OF TEMPERATURE-MOISTURE REGIME OF ROCKS SITUATED IN VOLCANIC TUFF MASSIVE IN BRHLOVCE VILLAGE 177

#### 13:10 Closing ceremony, V.Boháč

THERMOPHYSICS 2015, I.Medved'

#### 13:20 LUNCH

