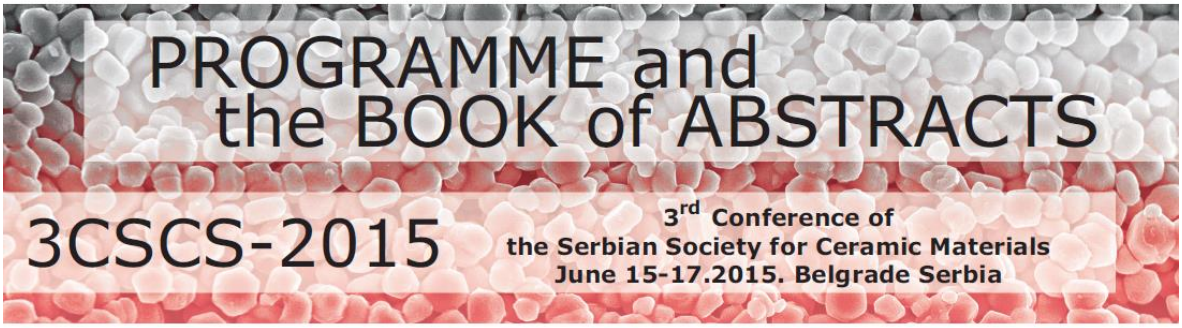
The Serbian Society for Ceramic Materials
The Academy of Engineering Sciences of Serbia
Institute for Multidisciplinary Research - University of Belgrade
Institute of Physics - University of Belgrade
Vinča Institute of Nuclear Sciences - University of Belgrade



Edited by:
Branko Matović
Zorica Branković
Dušan Bućevac
Vladimir V. Srdić

Programme and Book of Abstracts of The Third Conference of The Serbian Society for Ceramic Materilas **publishes abstracts from the field of ceramics, which are presented at international Conference.**

Editors-in-Chief
Dr Branko Matović
Dr. Zorica Branković
Dr. Dušan Bučevac
Prof. Vladimir V. Srdić

Publisher
Institute for Multidisciplinary Research, University of Belgrade
Kneza Višeslava 1, 11000 Belgrade, Serbia

For Publisher
Prof. Dr Sonja Veljović Jovanović

Printing layout
Vladimir V. Srdić

Press
Zonex, Beograd, Serbia

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

666.3/.7(048)
66.017/.018(048)

DRUŠTVO za keramičke materijale Srbije. Konferencija (3 ; 2015 ; Beograd)

Programme ; and the Book of Abstracts / 3rd Conference of the Serbian Society for Ceramic Materials, 3CSCS-2015, June 15-17, 2015, Belgrade, Serbia ; [organizers] The Serbian Society for Ceramic Materials... [et al.] ; edited by Branko Matović ... [et al.]. - Belgrade : Institute for Multidisciplinary Research, University, 2015 (Beograd : Zonex). - 128 str. ; 24 cm

Tiraž 140. - Str. 6: Welcome Message / Branko Matovic. - Registar.

ISBN 978-86-80109-19-0

a) Керамика - Апстракти b) Наука о материјалима - Апстракти c) Наноматеријали - Апстракти

COBISS.SR-ID 215704332

The Serbian Society for Ceramic Materials
The Academy of Engineering Sciences of Serbia
Institute for Multidisciplinary Research-University of Belgrade
Institute of Physics-University of Belgrade
Vinča Institute of Nuclear Sciences-University of Belgrade

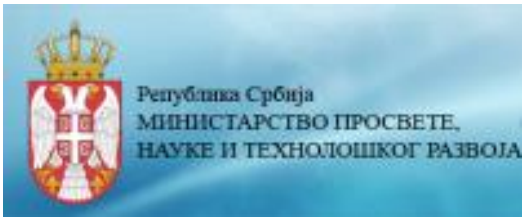
PROGRAMME AND THE BOOK OF ABSTRACTS

3rd Conference of The Serbian Society for Ceramic Materials

June 15-17, 2015
Belgrade, Serbia
3CSCS-2015

Edited by:
Branko Matović
Zorica Branković
Dušan Bućevac
Vladimir V. Srdić

SPECIAL THANKS TO




Braća Rajković


detall
Opremanje enterijera, nameštaj po meri


Š.U.N.D.


DVA JELENA
THE TWO DEER RESTAURANT


Holiday Inn
Express


Belgrade • City


Turistička
organizacija
Beograda


SERBIA


NATIONAL TOURISM
ORGANISATION of
SERBIA

Committees

Organizer

- The Serbian Society for Ceramic Materials
- The Academy of Engineering Sciences of Serbia
- Institute for Multidisciplinary Research-University of Belgrade
- Institute of Physics-University of Belgrade
- Vinča Institute of Nuclear Sciences-University of Belgrade

Scientiific Committee

1. Dr. Slavko Bernik, *Institute "Jožef Štefan", Ljubljana, Slovenia*
2. Prof. Dr. Chang-An Wang, *School of Materials Science and Engineering, Tsinghua University, P. R. China*
3. Prof. Dr. Claus Rebholz, *University of Cyprus, Cyprus*
4. Dr. Ravi Kumar, *Indian Institute of Technology-Madras (IIT Madras), India*
5. Katsumi Yoshida, *Tokyo Institute of Technology, Japan*
6. Elisabetta Di Bartolomeo, *Dept. of Chemical Science and Technologies, University of Rome Tor Vergata, Italy*
7. Prof. Dr. Lidija Ćurković, *Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Croatia*
8. Dr. Snežana Bosković, *Institute of Nuclear Sciences Vinca, University of Belgrade, Serbia*
9. Prof. Dr. Biljana Stojanović, *Institute for Multidisciplinary Research - University of Belgrade, Serbia*
10. Prof. Dr. Vladimir V. Srdić, *Faculty of Technology, University of Novi Sad, Serbia*
11. Dr. Zorica Branković, I*nstitute for Multidisciplinary Research - University of Belgrade, Serbia*
12. Dr. Goran Branković, *Institute for Multidisciplinary Research - University of Belgrade, Serbia*
13. Dr. Zorana Dohčević-Mitrović, *Institute of Physics, University of Belgrade, Serbia*
14. Dr. Branko Matović, *Institute of Nuclear Sciences Vinca, University of Belgrade, Serbia*
15. Dr. Aleksandra Zarubica, *University of Nis, Serbia*

16. Prof. Dr. Tatjana Volkov-Husović, *Faculty of Technology and Metallurgy, University of Belgrade, Serbia*
17. Dr. Miroslav Komljenović, *Institute for Multidisciplinary Research-University of Belgrade, Serbia*
18. Dr. Maja Sćepanović, *Institute of Physics, University of Belgrade, Serbia*
19. Dr. Tatjana Srećković, *Institute for Multidisciplinary Research - University of Belgrade, Serbia*
20. Dr. Dejan Zagorac, *INN Vinca, University of Belgrade, Serbia*

Organizing Committee

1. Dr. Bratislav Todorović, *Faculty of Technology, Leskovac, Serbia*
2. Dr. Mirjana Cocić, *Technical Faculty, Bor, Serbia*
3. Dr. Mirjana Grujić-Brojčin, *Institute of Physics, Zemun, Serbia*
4. Prof. Radmila Jančić-Heinemann, *Faculty of Technology and Metallurgy, University of, Belgrade, Serbia*
5. Dr Marija Milanović, *Faculty of Technology, University of Novi Sad, Serbia*
6. Dr. Zorica Marinković-Stanojević, *Institute for Multidisciplinary Research, Belgrade, Serbia*
7. Dr. Sanja Martinović, *IHTM Belgrade, Serbia*
8. Dr. Marija Prekajski, *Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*
9. Dr. Marijan Randjelović, *PMF, University of Niš, Serbia*
10. Dr. Ivan Stjepović, *Faculty of Technology, University of Novi Sad, Serbia*
11. Dr. Mirjana Vijatović-Petrović, *Institute for Multidisciplinary Research, Belgrade, Serbia*
12. Dr. Milica Vlahović, *IHTM Belgrade, Serbia*
13. Dr. Jelena Purenovic, *Faculty of Technical Science, Cacak, Serbia*
14. Dr. Aleksandar Savić, *Institute for Multidisciplinary Research, Belgrade, Serbia*

O-5

THERMOELECTRIC PROPERTIES OF Cu- DOPED SODIUM COBALTITE CERAMICS

Sanja Pršić[1], Slavica M. Savić[1], Zorica Branković[1], Stane Vrtnik[2], Slavko Bernik[3,4], Goran Branković[1]

[1]*Institute for Multidisciplinary research, University of Belgrade, Kneza Viseslava 1, 11000 Belgrade, Serbia*
[2]*Institute Jožef Stefan, Condensed Mater Physics, Jamova cesta 39, 1000 Ljubljana, Slovenia*
[3]*Jožef Stefan Institute, Department for Nanostructured Materials, Jamova cesta 39, 1000 Ljubljana, Slovenia*
[4]*Center of Excellence NAMASTE, Jamova cesta 39, 1000 Ljubljana, Slovenia*

Layered cobalt oxide materials have lately been the subject of considerable fundamental and practical interest as potential candidates for thermoelectric application. The polycrystalline samples of $NaCo_{2-x}Cu_xO_4$ (x = 0, 0.01, 0.03, 0.05) were obtained by mechanochemically assisted solid-state reaction method (MASSR) and the citric acid complex method (CAC). Ceramic samples were prepared by pressing into disc-shaped pellets and subsequently sintered at 880 °C for 20 h in inert argon atmosphere. The electrical resistivity (ρ), the thermal conductivity (κ) and the Seebeck coefficient (S) were measured and observed in two temperature regions: low (from 0 to 300 K) and high (from 300 K to 800 K), and the effect of small concentrations of the dopant on the thermoelectric properties was observed. The values of κ were lower in higher temperature region, and almost independent of Cu concentration. S was positive above 25 K, and higher for Cu-doped samples, reaching the highest values for both syntheses for samples with x = 0.03(~145 μV/K at 873 K for CAC sample). The highest figure of merit (ZT) at room temperature (0.022) was obtained for x = 0.01 while at high temperature region ZT were 0.050 and 0.034 for CAC and MASSR samples, respectively. ZT values for all samples were higher than in undoped samples, confirming that even small concentration of Cu significantly influences the thermoelectric properties of $NaCo_2O_4$. It was found that the samples synthesized by CAC method possess better thermoelectric properties, confirming the fact that this type of synthesis enables obtaining fine, homogeneous precursor powders with fine microstructures and small grains which presents prerequisite for obtaining material with good thermoelectric performances.