Programme & The Book of Abstracts

Twentieth Annual Conference

YUCOMAT 2018

Herceg Novi, Montenegro, September 3–7, 2018

Organised by

SERBIA MRS

endorsed by

MRS ENDORSED MEETING

E-MRS

FEMS 30 FEDERATION OF EUROPEAN MATERIALS SOCIETIES 1987 – 2017 www.FEMS.org

TWENTIETH ANNUAL CONFERENCE

YUCOMAT 2018

Hunguest Hotel Sun Resort Herceg Novi, Montenegro,
September 3-7, 2018
http://www.mrs-serbia.org.rs

Programme
and
The Book of Abstracts

Organised by:
Materials Research Society of Serbia

Endorsed by:
Materials Research Society,
European Materials Research Society
and
Federation of European Material Societies

Title: THE TWENTIETH ANNUAL CONFERENCE
YUCOMAT 2018
Programme and The Book of Abstracts

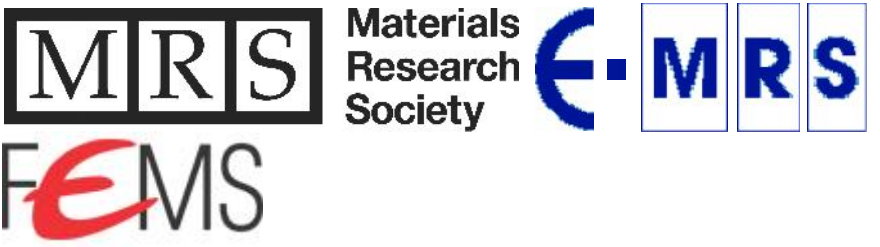
Publisher: Materials Research Society of Serbia
Knez Mihailova 35/IV, P.O.Box 433, 11000 Belgrade, Serbia
Phone: +381 11 2185-437
http://www.mrs-serbia.org.rs

Editors: Prof. Dr. Dragan P. Uskoković and Prof. Dr. Velimir R. Radmilović

Technical editor: Sava Stoisavljević

Front cover: Modified Photo by Hons084; Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Widoki_z_twierdzy_Forte_Mare_na_Herceg_Novi_03.jpg); CC BY-SA 4.0
Back cover: Modified Photo by Dani Lavi 0007; Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Belgrade_at_night.jpg); CC BY-SA 4.0

Acknowledgments: This conference is celebrating 20 years of YUCOMAT



Printed in: Biro Konto
Sutorina bb, Igalo – Herceg Novi, Montenegro
Phones: +382-31-670123, 670025, E-mail: bkonto@t-com.me
Circulation: 220 copies. The end of printing: August 2018

P.S.A.7.

Sintering of alumina doped with different oxides, followed by sensitive dilatometer

Suzana Filipović[1], Nina Obradović[1], Smilja Marković[1], Antonije Đorđević[2,3], Aleksandra Dapčević[4], Jelena Rogan[4], Vladimir Pavlović[4]
[1]Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade Serbia; [2]School of Electrical Engineering, University of Belgrade, Bulevar kralja Aleksandra 73, 11000 Belgrade, Serbia; [3]Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11000 Belgrade, Serbia; [4]Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11120 Belgrade, Serbia

Sintered alumina powder represents suitable material for usage in various industry fields (e.g., as chip carriers in electronics, microwaves, jewelry production), due to convenient physical properties, such as sinterability, electrical and mechanical features. Those properties can be modified by addition of different oxides and/or mechanical treatment. Therefore, in this investigation the alumina was doped with 1 wt. % of Cr_2O_3, Mn_2O_3 and NiO, respectively, followed by 1 hour of mechanical activation at 400 rpm in planetary ball mill. Sintering of powder mixtures was tracked by sensitive dilatometer up to 1400 ^oC. The final density values varied from cca. $2 - 3.2$ g/cm^3. Changes in microstructure were observed by means of SEM. The influence of additives along with mechanical activation is monitored trough changes in electrical permittivity and loss tangent. Compared to pure alumina, the additives lower the relative permittivity and increase dielectric losses. For a given mixture, the sintering increases the relative permittivity and decreases losses.

P.S.A.8.

$Ni_{1-x}Mo_x$ dispersed alloys: synthesis and catalytic properties in 1,2-dichloroethane decomposition process

Yuliya V. Rudneva[1], Yury V. Shubin[1], Pavel E. Plyusnin[1],Yurii I. Bauman[2], Ilya V. Mishakov[2]
[1]Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia;
[2]Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia

Catalytic decomposition of chlorinated hydrocarbons on Ni-based alloys is the most promising approach in the recycling of Cl-containing organic wastes, which are generated as a result of chemical productions. In this work we show that $Ni_{1-x}Mo_x$ alloys are the most active catalysts in the number of tested bimetallic systems (Ni-Co, Ni-Cr, Ni-Cu, Ni-Fe, Ni-Pt) in the process of decomposition of 1,2-dichloroethane. The process results in formation of carbon nanofiber with high specific surface area (300–400 m^2/g). Ni and Mo are thermodynamically immiscible in the region of $\geq$10 at.% Mo at T<1000 °C. We successfully prepared $Ni_{1-x}Mo_x$ dispersed alloys with Mo content of 1-13 at.% by the thermolysis of specifically synthesized single-source precursors, containing both metals in desired ratio. The structure and composition of prepared dispersed alloys were confirmed by XRD, TEM, ICP AES and EDX analysis.
The work has been supported by grant of Russian Science Foundation (project №16-13-10192).

CIP- Каталогизација у публикацији
Народна библиотека Србије

66.017/.018(048)

MATERIALS Research Society of Serbia (Beograd). Conference (20 ; 2018 ; Herceg Novi)
Programme ; and The Book of Abstracts / Twentieth Annual Conference YUCOMAT 2018, Herceg Novi, September 3-7, 2018 ; organised by Materials Research Society of Serbia ; [editors Dragan P. Uskoković and Velimir R. Radmilović]. - Belgrade : Materials Research Society of Serbia, 2018 (Herceg Novi : Biro Konto). - XLIV, 159 str. : ilustr. ; 23 cm

Tiraž 220. - Bibliografija uz pojedine apstrakte. - Registar.

ISBN 978-86-919111-3-3

1. Materials Research Society of Serbia (Beograd)

a) Наука о материјалима - Апстракти

b) Технички материјали - Апстракти

COBISS.SR-ID 266944524