Serbian Ceramic Society Conference
ADVANCED CERAMICS AND APPLICATION III
New Frontiers in Multifunctional Material Science and Processing

Serbian Ceramic Society
Institute of Technical Sciences of SASA
Institute of Chemistry Technology and Metallurgy
Institute of Physics
Institute for Technology of Nuclear and Other Raw Mineral Materials
Institute for Testing of Materials
Archeological Institute of SASA

PROGRAM AND THE BOOK OF ABSTRACTS

Serbian Academy of Sciences and Arts, Knez Mihailova 35
Sep 29th - Oct 1st, 2014, Belgrade, Serbia

Book title: Serbian Ceramic Society Conference - ADVANCED CERAMICS AND APPLICATION III: Program and the Book of Abstracts

Publisher:
Serbian Ceramic Society

Editors:
Prof.dr Vojislav Mitić
Prof. dr Olivera Milošević
Dr Nina Obradovic
Dr Lidija Mančić

Technical Editor:
Prof. dr Olivera Milošević

Printing:
Serbian Academy of Sciences and Arts,
Knez Mihailova 35, Belgrade
Format
Pop Lukina 15, Belgrade

Edition:
150 copies

Sculptural Concretes: Rajko D. Blažić, High School-Academy for Arts and Conservation, Serbian Ortodox Church, Belgrade, Serbia

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

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

SERBIAN Ceramic Society (Belgrade). Conference (3rd ; 2014 ; Beograd) Advanced Ceramics and Application : new frontiers in multifunctional material science and processing : program and the book of abstracts / III Serbian Ceramic Society Conference, 29th September - 1st October, Belgrade, 2014 ; [organized by] Serbian Ceramic Society ... [et al.] ; [editors Vojislav Mitić ... et al.]. - Belgrade : Serbian Ceramic Society, 2014 (Belgrade : Serbian Academy of Sciences and Arts). – 139 str. ; 30 cm

Tiraž 150.

ISBN 978-86-915627-2-4

1. Serbian Ceramic Society (Belgrade)
a) Керамика - Апстракти b) Наука о материјалима - Апстракти c) Наноматеријали - Апстракти

COBISS.SR-ID 209985036

PS2-24

The Influence of Temperature on Microstructure Contact Surfaces on $BaTiO_3$ –ceramics Doped with Ho_2O_3

S. Janković[1] , V. V. Mitić[2,3], Lj. Kocić[2,] V. Paunović[2], M. Miljković[4]

[1]*Mathematical Institute, SASA, Knez Mihailova 35, 11000 Belgrade*
[2]*University of Niš, Faculty of Electronic Engineering, Aleksandra Medvedeva 14, 18000 Niš, Serbia*
[3]*Institute of Technical Sciences, SASA, Knez Mihailova 35, 11000 Belgrade, Serbia*
[4]*University of Niš, SEM Laboratory, 18000 Niš, Serbia*

The materials based on $BaTiO_3$ can be controlled using different technological parameters and different additives. We investigate the influence of different temperature levels of sintering (1320°C, 1350°C and 1380°C) on the size of contact area for 0.1% Ho_2O_3 doped $BaTiO_3$ ceramic. Microstructural investigations were carried out using scanning electron microscopy (JEOL-JSM 5300) equipped with EDS (QX 2000S) system. Grain size distribution was determined by quantitative metallography method.

The new correlation between microstructure and dielectric properties of doped $BaTiO_3$-ceramics based on fractal geometry and contact surface probability is recently developed. The presented results indicate that statistical model of contact surfaces is very important for the prognosis of $BaTiO_3$-ceramics microstructure and dielectric properties.

Keywords: $BaTiO_3$-ceramics, microstructure, grain contact surface