FOURTEENTH YOUNG RESEARCHERS' CONFERENCE
MATERIALS SCIENCE AND ENGINEERING

December 9-11, 2015, Belgrade, Serbia
Serbian Academy of Sciences and Arts, Knez Mihailova 36

Program and the Book of Abstracts

Materials Research Society of Serbia
&
Institute of Technical Sciences of SASA

December 2015, Belgrade, Serbia

Book title:
Fourteenth Young Researchers' Conference - Materials Science and Engineering: Program and the Book of Abstracts

Publisher:
Institute of Technical Sciences of SASA
Knez Mihailova 35/IV, 11000 Belgrade, Serbia
Tel: +381-11-2636994, fax: 2185263
http://www.itn.sanu.ac.rs

Editor:
Dr. Smilja Marković

Technical Editor:
Aleksandra Stojičić

Cover page: Aleksandra Stojičić and Milica Ševkušić
Cover: modified photo *Belgrade bridges* by mcveja; Flickr (https://www.flickr.com/photos/mcveja/2428406067/); CC-BY 2.0 Generic

Printer:
Gama digital centar
Autoput No. 6, 11070 Belgrade, Serbia
Tel: +381-11-6306992, 6306962
http://www.gdc.rs

Edition:
100 copies

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

66.017/.018(048)

YOUNG Researchers Conference Materials Sciences and Engineering (14th ; 2015 ; Beograd)
Program ; and the Book of Abstracts / Fourteenth Young Researchers' Conference Materials Sciences and Engineering, December 9-11, 2015, Belgrade, Serbia ; [organized by] Materials Research Society of Serbia & Institute of Technical Sciences of SASA ; [editor Smilja Marković]. - Belgrade : Institute of Technical Sciences of SASA, 2015 (Beograd : Gama digital centar). - XVI, 58 str. ; 23 cm

Tiraž 100. - Registar.

ISBN 978-86-80321-31-8
1. Materials Research Society of Serbia (Beograd)
a) Наука о материјалима - Апстракти b) Технички материјали - Апстракти
COBISS.SR-ID 219496972

11-5

Safe trapping of Cs radionuclides in sintered matrix of zeolites

Mia Omerašević,[1] Miodrag Lukić,[2] Zvezdana Baščarević,[3] Jovana Orlić,[4] Miljana Mirković,[1] Marjetka Savić-Biserčić,[5] Ljiljana Matović[1]

[1]University of Belgrade, Institute of Nuclear Sciences "Vinča", Materials Department, PO Box 522, 11001 Belgrade, Serbia, [2]Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, Belgrade, Serbia, [3]University of Belgrade, Institute for Multidisciplinary Research, Belgrade, Serbia, [4]University of Belgrade, Faculty of Chemistry, Studentski trg 12-16, 11000 Belgrade, Serbia, [5]University of Belgrade, Institute of Nuclear Sciences "Vinča", Chemical Dynamics Laboratory, P.O. Box 522, 11001 Belgrade, Serbia

Cesium aluminosilicate phases are of the great interest as possible host for Cs immobilization in radioactive waste management. The possibility to use zeolite as a host material for radioactive Cs immobilization was investigated. Cs-exchanged forms of clinoptilolite and 13X which were prepared by ion-exchange treatment were compacted. The powders compacts of exchanged zeolites were thermally treated at 1200 °C. The XRD analysis showed that Cs was successfully immobilized after heat treatment by formation of stable cesium-aluminosilicate ceramic forms. Thermal and mechanical properties of the sintered samples were investigated. From the perspective of these characteristics, Cs-exchanged zeolite (clinoptilolite and 13 X) can be considered as a potential material for safe waste disposal.