Author's Accepted Manuscript

Impedance Spectroscopy Modeling of Lithium Borate with Silica: A Dispersed Ionic Conductor System

Muhammad R. Hasyim, Seth S. Berbano, Regis M. Cleary, Michael T. Lanagan, Dinesh K. Agrawal



 PII:
 S0272-8842(17)30284-5

 DOI:
 http://dx.doi.org/10.1016/j.ceramint.2017.02.097

 Reference:
 CERI14713

To appear in: Ceramics International

Received date: 1 November 2016 Revised date: 20 January 2017 Accepted date: 21 February 2017

Cite this article as: Muhammad R. Hasyim, Seth S. Berbano, Regis M. Cleary Michael T. Lanagan and Dinesh K. Agrawal, Impedance Spectroscopy Modeling of Lithium Borate with Silica: A Dispersed Ionic Conductor System, *Ceramic International*, http://dx.doi.org/10.1016/j.ceramint.2017.02.097

This is a PDF file of an unedited manuscript that has been accepted fo publication. As a service to our customers we are providing this early version o the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain

ACCEPTED MANUSCRIPT

Impedance Spectroscopy Modeling of Lithium Borate with Silica: A Dispersed Ionic Conductor System

Muhammad R. Hasyim^{a,b*}, Seth S. Berbano^{c,d}, Regis M. Cleary^e, Michael T. Lanagan^{a,c,d,f},

Dinesh K. Agrawal^{a,d,f}

^aDepartment of Engineering Science & Mechanics, The Pennsylvania State University, University

Park, PA 16802 USA

^bDepartment of Chemical Engineering, The Pennsylvania State University, University Park, PA

16802 USA

^cCenter for Dielectrics & Piezoelectrics, Materials Research Institute, The Pennsylvania State University, University Park, PA 16802 USA

^dDepartment of Materials Science & Engineering, The Pennsylvania State University, University Park, PA 16802 USA

^eFacilities Engineering Institute, The Pennsylvania State University, University Park, PA 16802

USA

^fMicrowave Processing and Engineering Center, Materials Research Institute, The Pennsylvania State University, University Park, PA 16802 USA

*Correspondence. Phone: 814-865-6992, Fax: (814) 865-2326, E-mail: mrh5506@psu.edu

Abstract

Lithium borate/silica composites, 40 wt% SiO₂ with $x \cdot Li_2O + (1-x) \cdot B_2O_3$, x = 0.33, 0.50, were explored with the goal of achieving Li-ion conductivity enhancements across batches with different compositions and processing steps. Two batches were made for each composition, namely

Download English Version:

https://daneshyari.com/en/article/5437918

Download Persian Version:

https://daneshyari.com/article/5437918

Daneshyari.com