

Table of Contents

Identification of Mg Vacancy in MgO by Positron Lifetime Measurements and First-Principles Calculations M. Mizuno, H. Araki, Y. Shirai, F. Oba and I. Tanaka	1
Analysis of the Effect of the Oxide Ion Vacancy on the Crystal Structure of $\text{La}_{1-x}\text{Ca}_x\text{CrO}_{3-\delta}$ by High-Temperature X-Ray Diffraction under Various Oxygen Partial Pressures N. Ohba, E. Oikawa and T. Hashimoto	9
Synthesis and Characterization of Lithium Ion Conductors, Li_3InBr_6 and their Substituted Compounds Y. Tomita, H. Matsushita, Y. Maeda, K. Kobayashi and K. Yamada	17
Oxygen Diffusion in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_{4-\delta}$: Molecular Dynamics Study S.N. Savvin, G.N. Mazo and A.K. Ivanov-Schitz	27
Review: Stress-Induced Diffusion and Cation Defect Chemistry Studies of Perovskites K. Salama, G. Majkic and U.(. Balachandran	43
Transport and Electrochemical Properties of $\text{Li}_y\text{Ni}_x\text{Mn}_{2-x}\text{O}_4$ ($0.1 \leq x \leq 0.5$) Cathode Materials J. Molenda, M. Ziemnicki, K. Świerczek and J. Marzec	65
Static and Dynamic Heterogeneities in Supercooled SiO_2 V.V. Hoang	77
Charge Distribution and Magnetic Interactions in $\text{PrBa}_2\text{Cu}_3\text{O}_7$ with Substitutional Defects and Oxygen Disorder: the ab initio Approach M. Łuszczek	95
Grain Boundary Defects in ZnO Ceramic Doped with Mo M. El-Hofy	107
Elucidation of Ionic Conduction in Oxide Electrolytes by AC Method (Dielectric Relaxation Processes in $\text{La}_{1-x}\text{Sr}_x\text{Ga}_{1-x+0.1}\text{Ti}_{x-0.1}\text{O}_{3-\delta}$) E. Iguchi, M. Kurumada and S. Mochizuki	115
Diffusion of Oxygen at Ceramic Interfaces for High-Temperature Solid Oxide Fuel Cells T. Horita, H. Kishimoto, K. Yamaji, N. Sakai, Y.P. Xiong, M.E. Brito and H. Yokokawa	129
Structural Defect Formation in Inorganic Sol-Gel Derived Oxides E.V. Frolova and M.I. Ivanoskaya	143
High Oxide Ion Conductivity of $(\text{Ba}_{1-x-y}\text{Sr}_x\text{La}_y)\text{InO}_{2.5+y/2}$ Members Derived from the $\text{Ba}_2\text{In}_2\text{O}_5$ System K. Kakinuma, H. Yamamura and T. Atake	159
Germanium in Czochralski Silicon D.R. Yang and J. Chen	169
Cation Transport in Stabilised Zirconias M. Kilo	185
Probing the Effects of SHI and Doping-Induced Defects in Nanocrystalline Spinel Ferrites S. Ghosh, A. Gupta, V.R. Reddy, V. Ganesan, M. Gupta, S.A. Khan, S. Kundu and N. Kumar	255
Size Effect on the Electronic Properties of Doped and Undoped Ceria X.-. Zhou, W. Huebner and H.U. Anderson	277
Abstracts	1