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Areas of interest:

Solid Oxide Fuel Cells, Transparent Ceramics, Powder Characterization, Extrusion Processing, Rheology, Chemical Vapour Deposition, Hot Isostatic Pressing, Impedance analysis, Porous Ceramics, High power polycrystalline laser ceramics

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List of Publications:

1. Comparative Evaluation of Electrical Conductivity of hydroxyapatite Ceramics Densified through Ramp and Hold, Spark Plasma and Post-Sinter Hot Isostatic Pressing Routes
M. Buchi Suresh, P. Biswas, V. Mahender and Roy Johnson
International Journal of Ionics (2016) (under review)
2. Quasi-static compression behavior of nickel oxide, nickel oxide:zirconia, nickel:zirconia and nickel foams
Papiya Biswas, Pandu Ramavath, Chandana Muraleedharan Nair, **Madireddy Buchi suresh**, Nakula Ravi and Roy Johnson
Ceramics international April, 2016 (in press)
3. Sonochemical Synthesis of Nano-Structured Hydroxyapatite with unique morphologies and Evaluation of Sintering Kinetics
Papiya Biswas, Bandhakavi Lakshmi Sindhura, Chandhana Muraleedharan Nair, Pandu Ramavath, **Madireddy Buchi Suresh** and Roy Johnson
Journal of Advances in Chemistry, 11 (2015) 3789-3797
4. Mixing Torque Measurement - an Effective Tool for Identifying Critical Binder Volume Concentrations for Ceramic Processing
Nirmala Sanikommu, K Bhargavi, **M Buchi Suresh**, Roy Johnson and A S Joshi
Journal of Scientific and Industrial Research 74 (2015)504-507

5. Synthesis, Extrusion processing and Ionic Conductivity measurements of Sodium Beta Alumina tubes
K. Avinash, **M. Buchi Suresh**, A.K. Khanra and Roy Johnson
Journal of Processing and Application of Ceramics 9[3] (2015)131-138
6. Transparent magnesium aluminate spinel: a prospective biomaterial for esthetic orthodontic brackets
Manu Krishnan, Brijesh Tiwari, Saraswathy Seema, Namitha Kalra, Papiya Biswas, Kotikalapudi Rajeswari, **Madireddy Buchi Suresh**, Roy Johnson, Nitin Gokhale, Satish R Iyer, Sanjay Londhe, Vimal Arora, Rajendra P Tripathi
Journal of Materials Science: Materials in Medicine, 25(11) (2014) 2591-2599
7. Optical and mechanical properties of compaction and slip cast processed transparent polycrystalline spinel ceramics
Pandu Ramavath, Papiya Biswas, Kotikalapudi Rajeswari, **M Buchi Suresh**, Roy Johnson, Gadhe Padmanabham, Chandrashekar Kumbhar, Tapas Kumar Chongdar, Nitin Madhusudan Gokhale
Ceramics International, 40[4] (2014) 5575-5581
8. Synthesis and Analysis of Highly efficient GDC20 as electrolyte for IT-SOFCs application
R. Gupta, A. K. Mishra, M.R. Majhi, **M. Buchi Suresh**
International Journal of Engineering and Innovative Technology, 3[3] (2013) 61-66
9. Effect of Micro-cracking on the Thermal Conductivity and Thermal Expansion of Tialate (Al_2TiO_5) ceramics
R. Papitha, **M. Buchi Suresh**, Dibakar Das and Roy Johnson
Journal of Processing and Application of Ceramics, 7[3] (2013) 143-146
10. High temperature flexure strength and thermal stability of near zero expanding doped Aluminium Titanate ceramics for DPF applications,
R. Papitha, **M. Buchi Suresh**, Dibakar Das and Roy Johnson,
International Journal of Applied Ceramic Technology 1-10 (2013) DOI: 10.1111/ijac/12092
11. Eutectoid Decomposition of Aluminum Titanate (Al_2TiO_5) Ceramics under Spark Plasma (SPS) and Conventional (CRH) Thermal Treatments
Papitha R, **Suresh M B**, Chakravarty D, Swarnakar.A, Dibakar Das and Roy Johnson
Ceramics International 40[1] (2014) 659-666
12. Pressure Slip casting and cold isostatic pressing of aluminum titanate green ceramics: A comparative evaluation
Papitha R, **M Buchi Suresh**, Y.S. Rao, B.P. Saha, Dibakar Das, Roy Johnson

- Journal of Processing and Application of Ceramics, 7[4] (2013) 159-166
13. Binder burnout and sintering kinetic study of alumina ceramics shaped using methylcellulose
K. Rajeswari, S. Chaitanya, P. Biswas, **M. Buchi Suresh**, Y.S. Rao and Roy Johnson
Journal of Ceramic Processing Research 16[1] (2014) 1-8
 14. Effect of Mg substitution on electromagnetic properties of NiCuZn ferrite
Ch. Sujatha, K. Venugopal Reddy, K.Sowri Babu, A. Ramchandra Reddy, **M. Buchi Suresh**, K.H. Rao
Journal of Magnetism and Magnetic Materials 340 (2013) 38-45
 15. Flow properties of spray dried alumina granules using powder flow analysis technique
P. Ramavath, M. Swathi, **M. Buchi Suresh** and Roy Johnson
Advanced Powder Technology, 24[3] (2013) 667-673
 16. Structure-Property Correlation of Sol-Gel Processed $\text{Co}_{0.5}\text{Ti}_{0.5}\text{ZnFeO}_4$ Ceramic
K. Vijaya Kumar, M. Lakshmi and **M. Buchi Suresh**
International Journal of Engineering Research and Application 3[6] (2013) 1489-1497
 17. Mineral oxide doped aluminum titanate ceramics with improved thermo-mechanical properties
R. Papitha, **M. Buchi Suresh**, Dibakar Das, Roy Johnson
Journal of Ceramics 214794 (2013) 1-9
 18. Diametral Deformation Behavior and Machinability of Methyl Cellulose Thermal Gel Cast Processed Alumina Ceramics
P. Biswas, M. Swathi, P. Ramavath, K. Rajeswari, **M.B. Suresh** and R. Johnson,
Ceramics international, 38[8] (2012) 6115-6121
 19. Effect of Co Substitution of Mg and Zn on electromagnetic properties of NiCuZn ferrites
Ch. Sujatha, K. Venugopal Reddy, K. Sowri Babu, A. Ramachandra Reddy, **M. Buchi Suresh** and K.H. Rao
Journal of Physics and chemistry of solids, doi.org/10.1016/j.jpcs.2013.02.005
 20. Studies on Ionic Conductivity of stabilized zirconia ceramics (8YSZ) densified through conventional and non-conventional sintering methodologies
K. Rajeshwari, **M.Buchi Suresh**, U.S.Hareesh, Y.S.Rao, Dibakar Das & Roy Johnson
Ceramics International, 37[8] (2011) 3557-3564

21. Effect of sintering temperature on structural properties of Al³⁺ Co-substituted Ni-Zn Ferrite Nano particles
K. Vijaya Kumar, D. Paramesh, P. Venkat Reddy, **M. Buchi Suresh**
Int. Journal of Engineering & Technology Research, 1[2] (2013) 153-158
22. Synthesis and Evaluation of Thermal, Electrical, and Electrochemical Properties of Ba_{0.5}Sr_{0.5}Co_{0.04}Zn_{0.16}Fe_{0.8}O_{3-δ} as a Novel Cathode Material for IT-SOFC Applications
M. Haritha, **M.B. Suresh** and R. Johnson
Ionics, 18[9] (2012) 891-898
23. The effect of strontium doping on densification and electrical properties of Ce_{0.8}Gd_{0.2}O_{2-δ} electrolyte for IT-SOFC application
M B Suresh and R Johnson
International Journal of Ionics, 18[3] (2012) 291-297
24. Structural and electrical properties of co-doped zirconia electrolyte for intermediate temperature solid oxide fuel cell application
M Buchi Suresh and Roy Johnson
International Journal of Energy Research, Vol. 36 [1] (2012) 1291-1297
25. Effect of Nano Grain Size on the Ionic Conductivity of Spark Plasma Sintered 8YSZ Electrolyte
K. Rajeswari, **M. Buchi Suresh**, Dibyendu Chakraborty, Dibakar Das and Roy Johnson
International Journal of Hydrogen Energy Vol. 37[1] (2012) 511-517
26. Colloidal Shaping of 8 mol% Ytria Stabilized Zirconia Electrolyte Honeycomb Structures by Microwave Assisted Thermal Gelation of Methyl Cellulose
K. Rajeswari, Papiya Biswas, **M Buchi Suresh**, U.S. Hareesh and Roy Johnson
Int. J. Appl. Ceram. Technology, 1-10 (2012) DOI:10.1111/j.1744-7402.2012.02832.x
27. Investigations on the phase stability of Na⁺ -conducting sodium dysprosium (phospho) silicates,
P. Sandhya Rani, **M. Buchi Suresh** and R. Subasri
Ceramics International, 38[2] (2012) 1435-1440
28. Synthesis and electrical properties of SrBi₄Ti₄O₁₅ piezoelectric ceramics
B Mamatha, **M B Suresh**, A R James, M Vithal and P Sarah
Phys. Scr. **84** (2011) 055704
29. Synthesis, characterization and electrical properties of Nd/Zr co-doped nano BaTiO₃ ceramics
Ch. Sameera Devi, **M. B. Suresh**, G.S.Kumar, G. Prasad
Journal of Advanced Dielectric, 2[1] (2012) 1-14

30. Impedance and modulus spectroscopic studies on 40PrTiTaO₆ + 60YTiNbO₆ ceramic composite
D.B.Dhwajam, **M. Buchi Suresh**, U.S.Hareesh, J.K.Thomas, S. Solomon and Annamma John
Journal of Material Science: Materials in Electronics DOI 10.1007/s10854-011-0464
31. Zn Doped LSCF as a Novel Cathode Material for Solid Oxide Fuel Cell
M. B. Suresh; Tsung-Her Yeh; Chen-Chia Chou
Integrated Ferroelectrics, 121[1] (2010) 113-119
32. Effect of sintering process on the microstructures of Bi₂O₃-doped yttria stabilized zirconia
T.H. Yeh, G.E. Kusuma, **M.B. Suresh**, C.C. Chou
Materials Research Bulletin, 45[3] (2010) 318-323
33. Dielectric and ferroelectric properties of PVDF-PZT nano composite films
M. B. Suresh, Tsung-Her Yeh, Chih-Chieh Yu and Chen-Chia Chou
Ferroelectrics, 381[1] (2009) 80-86
34. Chemical reactions during wet-chemical etching process of LSMO/PZT/LSMO-structured device fabrication
M. B. Suresh, Tsung-Her Yeh, Jun-Nan Shen, Jyh-Cheng Yu and Chen-Chia Chou
Ferroelectrics, 380[1] (2009) 97-101
35. Fabrication and characterization of dense PZT thick films using continuous wave CO₂ laser annealing
Shen-Da Tsai, **M. B. Suresh**, Ke-Heng Lai, Chen-Chia Chou
Ferroelectrics, 383[1] (2009) 89-94
36. Electrical properties and grain growth kinetics of PZN based ceramics using microwave sintering
M. B. Suresh, Chen-Liang Li and Chen-Chia Chou
Journal of Materials Science and Engineering **25** (2007) 878
37. Improvement in ferroelectric properties of PZT thick films prepared by a modified sol-gel technique using low temperature laser annealing
M. B. Suresh, Shen-Da Tsai and Chen-Chia Chou
Journal of Physica Scripta, T**129** (2007) 175
38. Comparison of electrical and dielectric properties of BLSF materials in Bi-Fe-Ti-O and Bi-Mn-Ti-O systems
M. B. Suresh, E. Venkata Ramana, S. Narendar Babu and S. V. Suryanarayana
Ferroelectrics, 332 (2006) 57

39. Electrical and Dielectrical properties of $\text{Bi}_6\text{Mn}_2\text{Ti}_3\text{O}_{18}$
M. B. Suresh, K. Srinivas, E. V. Ramana Murthy, G. Swaminathan and S.V.Suryanarayana
MRS, 755 (2003) DD.11.19.1
40. Electrical & Dielectric properties in double doped BaTiO_3 showing relaxor behavior
M. Mahesh Kumar, **M. B. Suresh** and S. V. Suryanarayana
J. Appl. Phys., 86 (1999) 1634
41. Dielectric relaxation in $\text{Ba}_{0.96}\text{Bi}_{0.04}\text{Ti}_{0.96}\text{Fe}_{0.04}\text{O}_3$
M. Mahesh Kumar, **M. B. Suresh**, S. V. Suryanarayana, G. S. Kumar & T.Bhimasankaram
J. Appl. Phys., 84 (1998) 12