

Papers Published in 1997

VOLUME 23

Number 1

- 1 Critical Current Density and Best Transport Current of an Ag-Sheathed Bi-2223 Tape Conductor
H. OGIWARA, Y. YAMADA, M. SATOU, T. KITAMURA & T. HASEGAWA (Japan)
- 7 Titanium Disulphide Thin Film Prepared by Plasma-CVD for Lithium Secondary Battery
S. KIKKAWA (Japan)
- 13 Sol-Gel Synthesis and NMR Characterization of Ceramics
J. LIVAGE, F. BABONNEAU, M. CHATRY & L. COURY (France)
- 19 Hydroxyapatite Synthesized by a Simplified Hydrothermal Method
H. S. LIU, T. S. CHIN, L. S. LAI, S. Y. CHIU, K. H. CHUNG, C. S. CHANG & M. T. LUI (Taiwan)
- 27 Factors Affecting Mechanical Properties of Silicon Oxynitride Ceramics
M. OHASHI, K. NAKAMURA, K. HIRAO, M. TORIYAMA & S. KANZAKI (Japan)
- 39 Synthesis of Nanostructured Materials by Mechanical Alloying
P. MATTEAZZI (Italy), G. LE CAËR & A. MOCELLIN (France)
- 45 Alumina Powders from Aluminium Nitrate-Urea and Aluminium Sulphate-Urea Reactions—The Role of the Precursor Anion and Process Conditions on Characteristics
S. RAMANATHAN, S. K. ROY, R. BHAT, D. D. UPADHYAYA & A. R. BISWAS (India)
- 55 Lithium-Niobate Ferroelectric Material Obtained by Glass Crystallization
M. TODOROVIC & LJ. RADONJIC (Yugoslavia)
- 61 SHS Powders for Thermal Spray Applications
C. BARTULI (Italy), R. W. SMITH & E. SHTESSEL (USA)
- 69 Effect of Thermal-Shock and Autoclave Treatment on the Microstructure of Al_2O_3 - ZrO_2 Composite
N. C. BISWAS & S. P. CHAUDHURI (India)
- 73 Concept and P/M Fabrication of Functionally Gradient Materials
A. KAWASAKI & R. WATANABE (Japan)
- 85 Preparation and Critical Current Density of Bi-based Superconducting Whisker Composites
R. FUNAHASHI, I. MATSUBARA, M. KONISHI, L. DIMESSO, M. UMEDA, T. OGURA, S. KOSAKA, N. OHNO & H. YAMASHITA (Japan)

Short Communication

- 89 BN Sintered with Al: Microstructure and Hardness
E. BENKO, J. MORGIEL & T. CZEPE (Poland)

Review Paper

- 93 Theoretical Aspects of Colloidal Processing
Y. HIRATA (Japan)

Number 2

- 99 Chemical Corrosion Phenomena of Roofing Tiles
J. RANOGAJEĆ, S. RADOSAVLJEVIĆ, R. MARINKOVIĆ-NEDUĆIN & B. ŽIVANOVIĆ (Yugoslavia)
- 105 New High Dielectric Strength Materials: Micro/Nanocomposites of Suspended Au Clusters in $\text{SiO}_2/\text{SiO}_2\text{--Al}_2\text{O}_3\text{--Li}_2\text{O}$ Gels
G. C. VEZZOLI, M. F. CHEN & J. CASLAVSKY (USA)
- 109 Heat Treatment Effects on the Tensile Properties and Microstructure of a SiC/RESN Composite in Nitrogen
R. T. BHATT (USA)
- 115 The Formation of Aluminium Nitride–Boron Carbide–Aluminium Composites by Wetting Assisted Infiltration
M. ÇIRAKOĞLU, Ç. TOY, A. TEKIN (Turkey) & W. D. SCOTT (USA)
- 119 Inorganic Fibres and Microfabricated Parts by Laser Assisted Chemical Vapour Deposition (LCVD): Structures and Properties
F. T. WALLEMBERGER (USA)
- 127 Corrosion of Non-Oxide Ceramics
K. G. NICKEL (Germany)
- 135 Influence of Porosity and Pore Size on the Compressive Strength of Porous Hydroxyapatite Ceramic
D.-M. LIU (Taiwan)
- 141 $\text{SiO}_2\text{--CeO}_2$ Coatings of Glass Substrate by Sol–Gel Process
T. TULUN & H. AKINCI (Turkey)
- 149 The Fabrication of Boron Carbide–Aluminium Composites by Explosive Consolidation
O. YÜCEL & A. TEKIN (Turkey)
- 153 Mixed Alkali Effect on Calcium Aluminogermanate Glasses
J.-S. WANG, K.-M. HON, K.-H. YANG, M.-C. WANG & M.-H. HON (Taiwan)
- 159 Preparation of Pure and Doped Zirconia Powders and Their Characterisation
S. SAHA & T. J. CHANDRAN (India)
- 165 Preparation and Properties of SiC Fibre Reinforced SiAlON Ceramic Composite
K. UENO & T. INOUE (Japan)
- 171 Influences of Powder Preparation Routes on the Sintering Behaviour of Doped $\text{ZrO}_2\text{--}3\text{ mol\% Y}_2\text{O}_3$
Y. H. CHIOU & S. T. LIN (Taiwan)
- 179 Preparation of High Strength Ceramic Fibre Reinforced Silicon Nitride Composites by a Pre-ceramic Polymer Impregnation Method
H. MOROZUMI, K. SATO, A. TEZUKA, H. KAYA & T. ISODA (Japan)
- 185 Preparation of Fe–TiC Composites by the Thermal-Explosion Mode of Combustion Synthesis
A. SAIDI (Iran), A. CHRYSANTHOU, J. V. WOOD & J. L. F. KELLIE (UK)

Number 3

- 191 Synthesis and Characterisation of Lead Magnesium Niobate Having Exceptionally High Dielectric Constant
S. M. GUPTA, C. S. HARENDRANATH & A. R. KULKARNI (India)
- 197 Wear Behaviour of $\text{Al}_2\text{O}_3\text{--TiCN}$ Composite Ceramic Sliding Against Pure Al, Fe and Stainless Steel
ZHAO XINGZHONG, LIU JIAJUN, ZHU BAOLIANG, LUO ZHENBI & MIAO HEZHOU (China)
- 203 Electromagnetic Applications of Melt-Processed YBCO
M. MURAKAMI (Japan)
- 209 The Oxidation Behaviour of Carbon Reinforced Glass Matrix Composites
K. L. PAGE & D. J. DUQUETTE (USA)

- 215 Plasticity of Nanocrystalline Zirconia Ceramics and Composites
A. J. A. WINNUST, M. M. R. BOUTZ, Y. J. HE, A. J. BURGGRAAF &
H. VERWEIJ (The Netherlands)
- 223 Interaction Between Lead Iron Niobate/Tungstate Ceramics and Silver/Palladium Metals
CHUNG-HSIN LU & JIUN-YEE LIN (Taiwan)
- 229 Porous Sol–Gel Ceramics
A. C. PIERRE (France)
- 239 A New Approach for the Young's Modulus–Porosity Correlation of Ceramic Materials
A. R. BOCCACCINI & Z. FAN (UK)
- 247 Permeability of the Electroceramics to Gas and its Dependence on the Firing Temperature
I. ŠTUBŇA & T. KOZIK (Slovakia)
- 251 Grain Growth in the MnO Added ZnO–6 wt% Sb₂O₃ Ceramic System
Ö. TOPLAN, V. GÜNAY & O. T. ÖZKAN (Turkey)
- 257 Influence of SnO on the Sintering Behaviour of Tin Dioxide
G. PFAFF (Germany) & J.-P. BONNET (France)
- 263 Subcritical Crack Growth and Thresholds in a 3Y–TZP Ceramic Under Static and Cyclic
Loading Conditions
J. CHEVALIER, C. OLAGNON, G. FANTOZZI & B. CALES (France)
- 267 Preparation and Characterization of Ytria-Stabilized Zirconia Powders by Solvent Extraction
Process
C. YULI & G. GONGYI (China)
- 273 Microgravitational Combustion Synthesis
O. ODAWARA (Japan)

Number 4

- 279 PZT Formation in the Presence of Dopants
C. BOUDAREN, A. MOUSSER & L. CHUC (Algeria)
- 283 Property Goals and Test Methods for High Temperature Ceramic Fibre Reinforcement
J. A. DICARLO (USA)
- 291 Hot-Pressing Behaviours of the Gel and Melt-Derived Sodium-Borosilicate Glass Powders
V. GÜNAY (Turkey)
- 297 The FTIR Spectroscopy and QXRD Studies of Calcium Phosphate Based Materials Produced
from the Powder Precursors with Different Ca/P Ratios
A. ŚLÓŠARCZYK, C. PALUSZKIEWICZ, M. GAWLICKI & Z. PASZKIEWICZ (Poland)
- 305 Sintering Behaviour of Sepiolite
A. A. GOKTAS, Z. MISIRLI & T. BAYKARA (Turkey)
- 313 New Approaches to Joining Ceramics for High-Temperature Applications
M. R. LOCATELLI, B. J. DALGLEISH, K. NAKASHIMA, A. P. TOMSIA &
A. M. GLAESER (USA)
- 323 Sintering of High-Density, High-Purity Alumina Ceramics
A. R. OLSZYNA, P. MARCHLEWSKI & K. J. KURZYDŁOWSKI (Poland)
- 329 The Microstructure Analysis of Cerium-Modified Barium Titanate Having Core–Shell
Structured Grains
Y. PARK & H. G. KIM (Korea)
- 337 Flotation Properties of Silicon Carbide—I. Flotation of Silicon Carbide with Anionic and
Cationic Collector
J. ISKRA (Poland)
- 343 Flotation Properties of Silicon Carbide—II. On the Influence of Multivalent Cations on the
Flotation of Silicon Carbide with Sodium Oleate
J. ISKRA (Poland)
- 349 Preliminary Results on Preparation and Sintering Behaviour of Hafnia Powders
A. LAKHLIFI, M. TAHA, P. SATRE, Y. JORAND, G. FANTOZZI & M. ROUBIN (France)

- 361 The Si_3N_4 and $\text{Si}_3\text{N}_4/\text{TiC}$ Layered Composites by Slip Casting
C.-H. YEH & M.-H. HON (Taiwan)
- 367 Ultrasonic Testing of Artificial Defects in Alumina Ceramic
L.-S. CHANG & T.-H. CHUANG (Taiwan)

Number 5

- 375 Non-linear Glass Materials
Y. ASAHARA (Japan)
- 383 The Effect of Calcination Temperature on the Behaviour of HA Powder for Injection Moulding
H.-Y. JUANG & M.-H. HON (Taiwan)
- 389 Final Stages of Sintering of Ceramic Materials: Effect of Residual Porosity and Microstructure on Mechanical Characteristics of Surface
A. L. YURKOV, T. A. SARKISYAN, D. A. IVANOV (Russia) & R. C. BRADT (USA)
- 401 Mechanical Properties of α -Cordierite and β -Spodumene Glass-Ceramics Prepared by Sintering and Crystallization Heat Treatments
Y.-M. SUNG (USA)
- 409 Influence of Impurities and Intrinsic Defects on Physicomechanical Properties of Silicon Carbide Single Crystals
A. GARSHIN, E. LAVRENOVA, Y. VODAKOV & E. MOKHOV (Russia)
- 413 Microstructural Mechanisms of Cyclic Fatigue-Crack Propagation in Grain-Bridging Ceramics
C. J. GILBERT, R. H. DAUSKARDT & R. O. RITCHIE (USA)
- 419 Synthesis of Lanthanum Aluminate by Thermal Decomposition of Hydrated Nitrates
M. D. SHAJI KUMAR, T. M. SRINIVASAN, C. SUBRAMANIAN & P. RAMASAMY (India)
- 425 Oxidation of Polycrystalline α -Silicon Carbide Ceramic
D.-M. LIU (Taiwan)
- 437 Wear and Friction Behaviour of UHMWPE–Alumina Combination for Total Hip Replacement
A. CHANDA, A. K. MUKHOPADHYAY, D. BASU & S. CHATTERJEE (India)
- 449 The Effect of GPS Parameters on Mechanical Properties of $\text{Y}-\alpha\text{-SiAlON}$ Ceramics
H. X. LI, W. Y. SUN, P. L. WANG, D. S. YAN (China) & T. Y. TIEN (USA)
- 457 Fabrication of Hot-Pressed Zircon Ceramics: Mechanical Properties and Microstructure
Y. SHI, X. HUANG & D. YAN (China)

Number 6

- 463 Lithia Porcelains as Promising Breeder Candidates—I. Preparation and Characterization of β -Eucryptite and β -Spodumene Porcelain
W. I. ABDEL-FATTAH & R. ABDELLAH (Egypt)
- 471 Lithia Porcelains as Promising Breeder Candidates—II. Structural Changes Induced by Fast Neutron Irradiation
W. I. ABDEL-FATTAH, F. M. ALI & R. ABDELLAH (Egypt)
- 483 Wear Simulation of Si_3N_4 Cutting Tool Material on a Pin-On-Disc Tester
XINGZHONG ZHAO, JIAJUN LIU, BAOLING ZHU, HEZHOU MIAO & ZHENBI LUO (China)
- 489 Effect of Coal Slag on the Wear Rate and Microstructure of the ZrO_2 -Bearing Chromia Refractories
ZONG-QI GUO, BO-QI HAN & HAI DONG (China)
- 497 Experimental Characterisation of High Temperature Creep Resistance of Mullite
H. RHANIM (France, Morocco), C. OLAGNON, G. FANTOZZI (France) & R. TORRECILLAS (Spain)

- 509 The Effect of Chromium and Titanium Implantation on the Mechanical Properties of Polycrystalline Alumina: The Role of Residual Stress
F. HALITIM, N. IKHLEF, S. ABDESLAM & G. FANTOZZI (France)
- 513 Influence of Solid Loading and Particle Size Distribution on the Porosity Development of Green Alumina Ceramic Mouldings
DEAN-MO LIU (Taiwan)
- 521 Overall Shape of Sintered Alumina Compacts
N. ÖZKAN & B. J. BRISCOE (UK)
- 537 Effect of Seeds on the Formation of Sol–Gel Mullite
G. M. ANILKUMAR, U. S. HAREESH, A. D. DAMODARAN & K. G. K. WARRIER (India)
- 545 Contents of Volume 23