



## List of Contents for Volume 27

### Volume 27 Number 1 2007

- 1 A 3-balls-on-3-balls strength test for ceramic disks  
T. FETT, G. RIZZI, E. ERNST, R. MÜLLER & R. OBERACKER (Germany)
- 13 Temperature dependence of mechanical properties of aluminum titanate ceramics  
C.-H. CHEN & H. AWAJI (Japan)
- 19 Halos mechanism in stabilizing of colloidal suspensions: Nanoparticle weight fraction and pH effects  
H. KARIMIAN & A.A. BABALUO (Iran)
- 27 Aqueous tape casting of reaction bonded aluminium oxide (RBAO)  
M.D. SNEL (The Netherlands, Belgium), G. DE WITH (The Netherlands), F. SNIJKERS, J. LUYTEN (Belgium) & A. KODENTSOV (The Netherlands)
- 35 The dependence of the elastic moduli of reaction bonded alumina on porosity  
S. PUCHEGGER (Austria), F. DOSE (Germany), D. LOIDL, K. KROMP (Austria), R. JANSSEN (Germany), D. BRANDHUBER (Austria), N. HÜSING (Germany) & H. PETERLIK (Austria)
- 41 Fabrication of alumina-based ceramic foams utilizing superplasticity  
A. KISHIMOTO, M. OBATA, H. ASAOKA & H. HAYASHI (Japan)
- 47 Effect of additives on the microstructure of porous alumina  
S. BHATTACHARJEE, L. BESRA & B.P. SINGH (India)
- 53 Gas permeability and mechanical properties of porous alumina ceramics with unidirectionally aligned pores  
T. ISOBE, Y. KAMESHIMA, A. NAKAJIMA, K. OKADA & Y. HOTTA (Japan)
- 61 Preparation and properties of porous alumina ceramics with uni-directionally oriented pores by extrusion method using a plastic substance as a pore former  
T. ISOBE, Y. KAMESHIMA, A. NAKAJIMA & K. OKADA (Japan)
- 67 Phase development and high temperature deformation in high alumina refractory castables with dolomite additions  
L.A. DÍAZ & R. TORRECILLAS (Spain)
- 73 Microstructure evaluation of MgO–C refractories with TiO<sub>2</sub>- and Al-additions  
C.G. ANEZIRIS, J. HUBÁLKOVÁ & R. BARABÁS (Germany)
- 79 The mechanism of corrosion of MgO–CaZrO<sub>3</sub>–calcium silicate materials by cement clinker  
J.L. RODRÍGUEZ-GALICIA (México), A.H. DE AZA (Spain), J.C. RENDÓN-ANGELES (México) & P. PENA (Spain)
- 91 Nickel aluminate spinel formation during sintering of simulated Ni-laden sludge and kaolinite  
K. SHIH & J.O. LECKIE (USA)
- 101 Microstructure and cleanability of uncoated and fluoropolymer, zirconia and titania coated ceramic glazed surfaces  
R. KUISMA, L. FRÖBERG, H.-R. KYMÄLÄINEN, E. PESONEN-LEINONEN, M. PIISPANEN, P. MELAMIES, M. HAUTALA, A.-M. SJÖBERG & L. HUPA (Finland)
- 109 Microstructural and optical features of a Eu-monazite  
T. HERNÁNDEZ & P. MARTÍN (Spain)

- 115 Precursors for the combustion synthesis of metal oxides from the sol–gel processing of metal complexes  
M. EPIFANI, E. MELISSANO, G. PACE & M. SCHIOPPA (Italy)
- 125 Phase transformation of ultrafine rare earth oxide powders synthesized by radio frequency plasma spraying  
X.L. SUN, A.I.Y. TOK (Singapore), R. HUEBNER (USA) & F.Y.C. BOEY (Singapore)
- 131 Effect of porosity of cordierite preforms on microstructure and mechanical strength of co-continuous ceramic composites  
M. PAVESE, M. VALLE & C. BADINI (Italy)
- 143 Creep behaviour of alumina/YAG nanocomposites obtained by a colloidal processing route  
R. TORRECILLAS, M. SCHEHL, L.A. DÍAZ, J.L. MENÉNDEZ & J.S. MOYA (Spain)
- 151 The effect of residual stresses in functionally graded alumina–ZTA composites on their wear and friction behaviour  
S. NOVAK, M. KALIN (Slovenia), P. LUKAS (Czech Republic), G. ANNE, J. VLEUGELS & O. VAN DER BIEST (Belgium)
- 157 Microstructures and material properties of fibrous HA<sub>p</sub>/Al<sub>2</sub>O<sub>3</sub>–ZrO<sub>2</sub> composites fabricated by multi-pass extrusion process  
B.-T. LEE, C.-W. LEE, A.K. GAIN & H.-Y. SONG (South Korea)
- 165 Raman study of yttria-stabilized zirconia interfacial coatings on Nicalon™ fiber  
N.I. BAKLANOVA, B.A. KOLESOV & T.M. ZIMA (Russian Federation)
- 173 Electrophoretic deposition for fabrication of YSZ electrolyte film on non-conducting porous NiO–YSZ composite substrate for intermediate temperature SOFC  
T. HOSOMI, M. MATSUDA & M. MIYAKE (Japan)
- 179 Influence of firing temperature on the color developed by a (Zr,V)SiO<sub>4</sub> pigmented opaque ceramic glaze  
L.M. SCHABBACH (Brazil), F. BONDIOLI, A.M. FERRARI, T. MANFREDINI (Italy), C.O. PETTER & M.C. FREDEL (Brazil)
- 185 Melting salt assisted sol–gel synthesis of blue phosphor Y<sub>2</sub>SiO<sub>5</sub>:Ce  
H. JIAO, L. WEI, N. ZHANG, M. ZHONG & X. JING (China)
- 191 A novel co-precipitation synthesis of a new phosphor Lu<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup>  
Q. CHEN, Y. SHI, L. AN, S. WANG, J. CHEN & J. SHI (China)
- 199 New pink ceramic pigment based on chromium (IV)-doped lutetium gallium garnet  
R. GALINDO, M. LLUSAR, M.A. TENA, G. MONRÓS & J.A. BADENES (Spain)
- 207 Preparation and characterization of SnO<sub>2</sub> and Cu-doped SnO<sub>2</sub> thin films using electrostatic spray deposition (ESD)  
C.M. GHIMBEU (France, The Netherlands), R.C. VAN LANDSCHOOT, J. SCHOONMAN (The Netherlands) & M. LUMBRERAS (France)
- 215 Study of Cr-SnO<sub>2</sub> ceramic pigment and of Ti/Sn ratio on formation and coloration of these materials  
M.A. TENA, S. MESEGWER, C. GARGORI, A. FORÉS, J.A. BADENES & G. MONRÓS (Spain)
- 223 Indentation modulus and hardness of Pb(Zr, Ti)O<sub>3</sub> sol–gel films deposited on Pt and LaNiO<sub>3</sub> electrodes. An estimation of the  $C_{ij}^D$  compliances  
P. DELOBELLE, G.S. WANG, E. FRIBOURG-BLANC & D. REMIENS (France)
- 231 An investigation of the parameters effecting the agglomerate size of a PZT ceramic powder prepared with a sol–gel technique  
S. LINARDOS, Q. ZHANG & J.R. ALCOCK (UK)
- 237 Microstructure and temperature dependence of properties of morphotropic phase boundary Bi(Mg<sub>1/2</sub>Ti<sub>1/2</sub>)O<sub>3</sub>–PbTiO<sub>3</sub> piezoceramics processed by conventional routes  
A. MOURE, M. ALGUERÓ, L. PARDO (Spain), E. RINGGAARD & A.F. PEDERSEN (Denmark)
- 247 Tetragonality of nano-sized barium titanate powder prepared with growth inhibitors upon heat treatment  
S.-W. KWON & D.-H. YOON (South Korea)
- 253 Enhancement of dielectric characteristics in donor doped Aurivillius SrBi<sub>2</sub>Ta<sub>2</sub>O<sub>9</sub> ferroelectric ceramics  
I. COONDOO, A.K. JHA & S.K. AGARWAL (India)
- 261 Effect of B<sub>2</sub>O<sub>3</sub> on the sintering and microwave dielectric properties of M-phase LiNb<sub>0.6</sub>Ti<sub>0.5</sub>O<sub>3</sub> ceramics  
Q. ZENG, W. LI, J.-L. SHI, J.-K. GUO, H. CHEN & M.-L. LIU (PR China)

- 267 Preparation and morphology of anisometric  $\text{KSr}_2\text{Nb}_5\text{O}_{15}$  particles  
Z. YANG, L. WEI & Y. CHANG (PR China)
- 273 Oxygen nonstoichiometry in  $\text{Pr}_{1-x}\text{Sr}_x\text{Co}_{0.2}\text{B}_{0.8}\text{O}_{3-\delta}$  ( $\text{B} = \text{Mn, Fe, } x = 0.2, 0.4$ ) perovskite oxides  
G.CH. KOSTOGLoudIS & CH. FTIKOS (Greece)
- 279 Magnetoelectric composites of nickel ferrite and lead zirconate titanate prepared by spark plasma sintering  
Q.H. JIANG (China), Z.J. SHEN (Sweden), J.P. ZHOU, Z. SHI & C.-W. NAN (China)
- 285 Propane gas sensing with high-density  $\text{SrTi}_{0.6}\text{Fe}_{0.4}\text{O}_{(3-\delta)}$  ceramics evaluated by thermogravimetric analysis  
P. MEUFFELS (Germany)
- 291 Preparation by tape casting and hot pressing of copper carbon composites films  
P.-M. GEFFROY, T. CHARTIER & J.-F. SILVAIN (France)
- 301 Effect of nickel boride additive on simultaneous densification and phase decomposition of  $\text{TiB}_2\text{--WB}_2$  solid solutions by pressureless sintering using induction heating  
M. SHIBUYA & M. OHYANAGI (Japan)
- 307 Simultaneous densification and phase decomposition of  $\text{TiB}_2\text{--WB}_2$  solid solutions activated by cobalt boride addition  
M. SHIBUYA, Y. YAMAMOTO & M. OHYANAGI (Japan)
- 313 Thermal stability of mesoporous boron nitride templated with a cationic surfactant  
P. DIBANDJO, L. BOIS, F. CHASSAGNEUX & P. MIELE (France)
- 319 Mechanical properties and microstructures of hot-pressed MgAlON–BN composites  
Z. ZHANG, L. TENG (Sweden) & W. LI (People's Republic of China)
- 327 Hot pressed titanium nitride obtained from SHS starting powders: Influence of a pre-sintering heat-treatment of the starting powders on the densification process  
J. RUSSIAS, S. CARDINAL, C. ESNOUF, G. FANTOZZI & K. BIENVENU (France)
- 337 Influence of oxygen on the joining between copper and aluminium nitride  
J. JARRIGE, T. JOYEUX, J.P. LECOMPTE & J.C. LABBE (France)
- 343 Microwave sintering of AlN powder synthesized by a SHS method  
C.-Y. HSIEH, C.-N. LIN, S.-L. CHUNG (Taiwan), J. CHENG & D.K. AGRAWAL (USA)
- 351 Effects of residual stresses on the fracture properties of non-oxide laminated composites  
S. GUICCIARDI, M. NAGLIATI, C. MELANDRI (Italy, Japan), G. PEZZOTTI (Japan) & D. SCITI (Italy, Japan)
- 357 Synthesis of SiC<sub>x</sub>O pre-alloyed nanopowders by pyrolysis of an aluminosilazane aerosol  
V. SALLES, S. FOUCAUD, E. LABORDE, E. CHAMPION & P. GOURSAT (France)
- 367 Microstructural characterization using orientation imaging microscopy of cellular Si/SiC ceramics synthesized by replication of Indian dicotyledonous plants  
V. PANCHOLI, D. MALLICK, CH. APPARAO, I. SAMAJDAR, O.P. CHAKRABARTI, H.S. MAITI & R. MAJUMDAR (India)
- 377 Degradation mechanisms of a SiC fiber reinforced self-sealing matrix composite in simulated combustor environments  
L. QUEMARD, F. REBILLAT, A. GUETTE, H. TAWIL & C. LOUCHET-POUILLERIE (France)
- 389 Investigation of whisker orientation in SiC whisker-reinforced alumina composites using neutron diffraction  
G.C. QUAN, K.T. CONLON & D.S. WILKINSON (Canada)
- 397 Mechanical characterization of a polysiloxane-derived SiOC glass  
C. MOYSAN (France), R. RIEDEL, R. HARSHE (Germany), T. ROUXEL & F. AUGEREAU (France)
- 405 Synthesis and characterization of balloons and porous blocks of  $\beta$ -SiC using silicone and urethane foam  
H. KONNO, S. SATO, K. KIMURA & H. HABAZAKI (Japan)
- 413 Microstructure and mechanical properties of  $\text{Ti}_3\text{SiC}_2\text{/3Y-TZP}$  composites by spark plasma sintering  
W. PAN & S.-L. SHI (PR China)
- 419 Development of silicon nitride/silicon carbide composites for wood-cutting tools  
F. EBLAGON, B. EHRLE, T. GRAULE & J. KUEBLER (Switzerland)

- 429 CaO–SiO<sub>2</sub>–Al<sub>2</sub>O<sub>3</sub>–Y<sub>2</sub>O<sub>3</sub> glasses as model grain boundary phases for Si<sub>3</sub>N<sub>4</sub> ceramics  
P. LICHVÁR, P. ŠAJGALÍK, M. LIŠKA & D. GALUSEK (Slovak Republic)
- 437 Pressureless sintered self-reinforced Y- $\alpha$ -SiAlON ceramics  
C.R. ZHOU, Z.B. YU & V.D. KRSTIC (Canada)
- 445 Erratum to “Microstructure development and properties of novel Ba-doped S-phase Sialon ceramics” [J. Eur. Ceram. Soc. 26 (2006) 3919–3924]  
B. BASU (India), M.H. LEWIS, M.E. SMITH, M. BUNYARD & T. KEMP (UK)

**Volume 27 Numbers 2–3 2007****Refereed Reports IX Conference & Exhibition of the European Ceramic Society**

- 447 Preface  
D. SUVOROV (Slovenia)
- Symposium A*
- 451 Coprecipitation of copper/zinc compounds in metal salt–urea–water system  
Z.C. OREL, J. MAČEK, M. MARINŠEK & S. PEJOVNIK (Slovenia)
- 457 Characterisation of liquid transfer processes and water adsorption mechanism on a porous ceramic by acoustic emission means  
T. CHOTARD, A. SMITH & A. QUET (France)
- 463 Dispersion properties of BaTi<sub>4</sub>O<sub>9</sub>/Ba<sub>2</sub>Ti<sub>9</sub>O<sub>20</sub> colloids with amphoteric polyelectrolytes  
C.-H. CHEN & K.-C. HSU (Taiwan)
- 469 Far infrared properties of sintered NiO  
M.V. NIKOLIĆ, V. BLAGOJEVIĆ (Serbia and Montenegro), K.M. PARASKEVOPOULOS, T.T. ZORBA (Greece), D. VASILJEVIĆ-RADOVIĆ, P.M. NIKOLIĆ & M.M. RISTIC (Serbia and Montenegro)
- 475 Thermal conductivity of pressed powder compacts: tin oxide and alumina  
C. POULIER, D.S. SMITH & J. ABSI (France)
- 479 Effective properties of suspensions, composites and porous materials  
W. PABST, E. GREGOROVÁ & G. TICHÁ (Czech Republic)
- 483 Static and cyclic crack propagation in Ce-TZP ceramics with different amounts of transformation toughening  
H.E. ATTAOUI (France), M. SAADAOUI (Morocco), J. CHEVALIER & G. FANTOZZI (France)
- 487 Ni–YSZ SOFC anodes—Minimization of carbon deposition  
J. MAČEK, B. NOVOSEL & M. MARINŠEK (Slovenia)
- 493 Cost-effective synthesis of AlMgB<sub>14</sub>–xTiB<sub>2</sub>  
V. KEVORKIJAN, S.D. ŠKAPIN, M. JELEN, K. KRNEL & A. MEDEN (Slovenia)
- 499 Density of multicomponent silica-based potential bioglasses: Quantitative structure-property relationships (QSPR) analysis  
G. LUSVARDI, G. MALAVASI, L. MENABUE, M.C. MENZIANI, A. PEDONE & U. SEGRE (Italy)
- 505 Preparation and properties of BaTi<sub>1-x</sub>Sn<sub>x</sub>O<sub>3</sub> multilayered ceramics  
S. MARKOVIC, M. MITRIC, N. CVJETICANIN & D. USKOKOVIC (Serbia and Montenegro)
- 511 FEM simulations of microstructure effects on thermoelastic properties of sintered ceramics  
M. IUGA & F. RAETHER (Germany)
- 517 Phase formation mechanism and characteristics of strontium barium niobate ceramics  
A. IANCULESCU, A. BRĂILEANU, G. VOICU & Ș. STOLERIU (Romania)
- 523 Contribution to phase equilibria in the Ce<sub>2</sub>O<sub>3</sub> rich part of the Ce<sub>2</sub>O<sub>3</sub>–SiO<sub>2</sub>–ZrO<sub>2</sub> system  
S. ZEC, S. BOŠKOVIC (Serbia and Montenegro), M. HROVAT & M. KOSEC (Slovenia)
- 527 MA-SHS of NbC and NbB<sub>2</sub> in air from the Nb/B/C powder mixtures  
T. TSUCHIDA & T. KAKUTA (Japan)

- 531 Molecular orbital approach to the optical nonlinearities of fresnoite-type crystals  
N. UCHIDA, S. TANAKA, K. UEMATSU, T. FUJIWARA & T. KOMATSU (Japan)
- 535 The effect of quartz content on the mechanical activation of dolomite  
É. MAKÓ (Hungary)
- 541 Some aspects of numerical analysis of conductivity percolation threshold  
M. AMBROŽIČ & A. DAKSKOBLER (Slovenia)
- 545 Luminescence and structural study of  $\text{Bi}_{4-x}\text{Eu}_x\text{Ti}_3\text{O}_{12}$  solid solution  
M.E. VILLAFUERTE-CASTREJÓN, F. CAMACHO-ALANÍS, F. GONZÁLEZ, A. IBARRA-PALOS, G. GONZÁLEZ, L. FUENTES & L. BUCIO (México)
- 551  $\text{SnO}_2$  and  $\text{CeO}_2$ -doped  $\text{SnO}_2$  materials obtained by sol-gel alkoxide route  
S. MIHAIU, L. MARTA & M. ZAHARESCU (Romania)
- 557 Effect of Nb and K doping on the crack propagation behaviour of lead zirconate titanate ceramics  
A. HIZEBRY (Morocco, France), H. EL ATTAOUI (France), M. SAADAOUI (Morocco), J. CHEVALIER & G. FANTOZZI (France)
- 561 Structural and morphological transformation of NaX zeolite crystals at high temperature  
H.J. LEE, Y.M. KIM, O.S. KWEON & I.J. KIM (Republic of Korea)
- 565 Vitrified galvanic waste chemical stability  
A.C. SILVA & S.R.H. MELLO-CASTANHO (Brazil)
- 571 Influence of A- and B-site doping on the properties of the system  $\text{La}_2\text{CoO}_{4\pm\delta}$   
F. RIZA & C. FTIKOS (Greece)
- 575 Microstructural evolution and electric properties of mechanically activated  $\text{BaTiO}_3$  ceramics  
V.P. PAVLOVIĆ, M.V. NIKOLIĆ, Z. NIKOLIĆ, G. BRANKOVIĆ, L. ŽIVKOVIĆ, V.B. PAVLOVIĆ & M.M. RISTIĆ (Serbia and Montenegro)
- 581 Crystal growing and reaction kinetic of large NaX zeolite crystals  
H.J. LEE, Y.M. KIM, O.S. KWEON & I.J. KIM (Republic of Korea)
- Symposium B*
- 585 Nano-explosion synthesis of multi-component ceramic nano-composites  
O. VASYLKIV (Japan, Ukraine), Y. SAKKA (Japan) & V.V. SKOROKHOD (Ukraine)
- 593 YAG powder synthesis by the modified citrate process  
M. ZARZECKA, M.M. BUĆKO, J. BRZEZIŃSKA-MIECZNIK & K. HABERKO (Poland)
- 599 X-ray single phase LSGM at 1350 °C  
C. ONCEL, B. OZKAYA & M.A. GULGUN (Turkey)
- 605 Production of expansive additive to portland cement  
Z. KONIK, J. MAŁOLEPSZY, W. ROSZCZYNIAŁSKI & A. STOK (Poland)
- 611 Synergistic effect of polymer-surfactant mixtures on the stability of aqueous silica suspensions  
A. ŞAKAR-DELIORMANLI (Turkey)
- 619 Confining caesium in expanded natural Perlite  
J.-L. REHSPRINGER, J. BALENCIE, S. VILMINOT, D. BURGER, A. BOOS & C. ESTOURNÈS (France)
- 623 Devitrification behaviour of plasma-sprayed glass coatings  
G. BOLELLI, L. LUSVARGHI, T. MANFREDINI & C. SILIGARDI (Italy)
- 629 Synthesis of glass-ceramics using glass cullet and vitrified industrial by-products  
A. KARAMBERI, K. ORKOPOULOS & A. MOUTSATSOU (Greece)
- 637 Production of ceramic foam filters for molten metal filtration using expanded polystyrene  
Z. TASLICUKUR, C. BALABAN & N. KUSKONMAZ (Turkey)
- 641 ANN model for prediction of powder packing  
M. SUTCU & S. AKKURT (Turkey)

- 645 Improvements in the structural integrity of green ceramic microcomponents by a modified soft moulding process  
D. ZHANG, B. SU & T.W. BUTTON (UK)
- 651 Ceramic matrix composites with gradient concentration of metal particles  
M. SZAFRAN, K. KONOPKA, E. BOBRYK & K.J. KURZYDŁOWSKI (Poland)
- 655 Fabrication of textured ferroelectric ceramics by magnetic alignment via gelcasting  
W. CHEN, Y. KINEMUCHI, T. TAMURA, K. MIWA & K. WATARI (Japan)
- 663 Preparation of *c*-axis-oriented  $\text{Bi}_4\text{Ti}_3\text{O}_{12}$  thick films by templated grain growth  
P.-H. XIANG, Y. KINEMUCHI & K. WATARI (Japan)
- 669 Porosity and pore size control in starch consolidation casting of oxide ceramics—Achievements and problems  
E. GREGOROVÁ & W. PABST (Czech Republic)
- 673 Tape casting of new electrolyte and anode materials for SOFCs operated at intermediate temperature  
S. BEAUDET SAVIGNAT, M. CHIRON & C. BARTHET (France)
- 679 Further tailoring of material properties in non-equimolar aluminium titanate ceramic materials  
I.D. ALECU & R.J. STEAD (Australia)
- 683 Sintering behaviour and microstructure of 3Y-TZP + 8 mol% CuO nano-powder composite  
S. RAN, A.J.A. WINNUBST, H. KOSTER, P.J. DE VEEN & D.H.A. BLANK (The Netherlands)
- 689 Microwave sintering of  $\text{CeO}_2$  and  $\text{Y}_2\text{O}_3$  co-stabilised  $\text{ZrO}_2$  from stabiliser-coated nanopowders  
S.G. HUANG (Belgium, China), L. LI (China), O. VAN DER BIEST & J. VLEUGELS (Belgium)
- 695  $\text{B}_4\text{C}$ /metal boride composites derived from  $\text{B}_4\text{C}$ /metal oxide mixtures  
A. GOLDSTEIN, Y. YESHURUN & A. GOLDENBERG (Israel)
- 701 In situ measurement of dimensional changes and temperature fields during sintering with a novel thermo-optical measuring device  
J. BABER, A. KLIMERA & F. RAETHER (Germany)
- 707 New synthesis methods of  $\text{MgAl}_2\text{O}_4$  spinel  
C. PĂCURARIU, I. LAZĂU, Z. ECSEDI, R. LAZĂU, P. BARVINSCHI (Romania) & G. MĂRGINEAN (Germany)
- 711 Preparation and characterization of cordierite powders  
C. GHITULICA, E. ANDRONESCU, O. NICOLA, A. DICEA & M. BIRSAN (Romania)
- 715 Synthesis of nano-titanium diboride powders by carbothermal reduction  
S.H. KANG & D.J. KIM (Republic of Korea)
- 719 Formation of TiC particle during carbothermal reduction of  $\text{TiO}_2$   
Y.-C. WOO, H.-J. KANG & D.J. KIM (Republic of Korea)
- 723 Hydrothermal synthesis of nickel ferrite powders, their properties and sintering  
M.M. BUĆKO & K. HABERKO (Poland)
- 729 Investigation on possibility of mechanochemical synthesis of  $\text{CaTiO}_3$  from different precursors  
G. BRANKOVIĆ, V. VUKOTIĆ, Z. BRANKOVIĆ (Yugoslavia) & J.A. VARELA (Brazil)
- 733 Wet jet milling of  $\text{Al}_2\text{O}_3$  slurries  
N. OMURA, Y. HOTTA, K. SATO, Y. KINEMUCHI, S. KUME & K. WATARI (Japan)
- 739 Influence of the milling environment on the reaction progress in the Si– $\text{Al}_2\text{O}_3$  system  
T. WLODEK, M. SOPICKA-LIZER (Poland), H. GOCMEZ & C. DURAN (Turkey)
- 743 Effects of processing parameters on the production of  $\beta$ -SiAlON powder from kaolinite  
Z. TATLI, A. DEMIR, R. YILMAZ, F. ÇALIŞKAN & A.O. KURT (Turkey)
- 749 Compressibility of the structural and functional ceramic nanopowders  
O.L. KHASANOV, E.S. DVILIS & V.M. SOKOLOV (Russia)
- 753 Slip casting using wet-jet milled slurry  
Y. HOTTA, N. OMURA, K. SATO & K. WATARI (Japan)

- 759 Assessment on mechanical properties controlling of alumina ceramics for harsh service conditions  
E. VOLCEANOV, A. VOLCEANOV & Ș. STOLERIU (Romania)
- 763 Influence of sintering environment on zirconia–metal carbides characteristics  
E. VOLCEANOV, Ș. MOTOC, A.T. ABAGIU, A. VOLCEANOV & Ș. STOLERIU (Romania)
- 769 Effect of sintering environment on the structure of calcia-stabilised  $TiO_2$ -added zirconia solid solutions  
W. PYDA & A. PYDA (Poland)
- 775 Alon-based materials prepared by SHS technique  
D. ZIENTARA, M.M. BUĆKO & J. LIS (Poland)
- 781 Microstructure and mechanical properties of silicon carbide pressureless sintered with oxide additives  
A. GUBERNAT, L. STOBIERSKI & P. LABAJ (Poland)
- 791 Low temperature densification of silicon nitride materials  
Z. TATLI (Turkey) & D.P. THOMPSON (UK)
- 797 Grain oriented titania ceramics made in high magnetic field  
A. MAKIYA, Y. KUSUMI, S. TANAKA, Z. KATO, N. UCHIDA, K. UEMATSU, T. KIMURA & K. KITAZAWA (Japan)
- 801 Effect of  $Bi_2O_3$  addition on the sintering and microstructural development of gadolinia-doped ceria ceramics  
V. GIL, J. TARTAJ, C. MOURE & P. DURAN (Spain)
- 807 Effect of forming pressure on densification behavior of nanocrystalline ITO powder  
B.-C. KIM, J.-H. LEE & J.-J. KIM (Republic of Korea)
- 813 High-temperature thermoelectric properties of polycrystalline  $Zn_{1-x-y}Al_xTi_yO$  ceramics  
K. PARK, K.Y. KO, W.-S. SEO, W.-S. CHO, J.-G. KIM & J.Y. KIM (Republic of Korea)
- 819 Effect of  $Bi_2O_3$  content on sintering and crystallization behavior of low-temperature firing  $Bi_2O_3-B_2O_3-SiO_2$  glasses  
B.-S. KIM, E.-S. LIM, J.-H. LEE & J.-J. KIM (Republic of Korea)
- 825 Characterization of the low temperature firing  $BaO-B_2O_3-SiO_2$  glass: The effect of BaO content  
E.-S. LIM, B.-S. KIM, J.-H. LEE & J.-J. KIM (South Korea)
- 831 The preparation and structural characterization of  $Al_2O_3/Ni-P$  composites with an interpenetrating network  
J. MICHALSKI, T. WEJRZANOWSKI, S. GIERLOTKA, J. BIELINSKI, K. KONOPKA (Poland), T. KOSMAC (Slovenia) & K.J. KURZYDLOWSKI (Poland)
- 837 Ti-based ceramic composites derived from polymer pyrolysis  
B.-S. KIM & D.J. KIM (Republic of Korea)
- 843 The contribution of waste in the construction of composite materials  
V.G. KARAYANNIS & A.K. MOUTSATSOU (Greece)
- 851 Identification of parameters involved in the bonding of copper tracks on alumina substrates by a laser process  
S. MENECIER, J. JARRIGE, J.C. LABBE & P. LEFORT (France)
- 855 Comparison between two processes using oxygen in the Cu/AlN bonding  
J. JARRIGE, T. JOYEUX, J.P. LECOMPTE & J.C. LABBE (France)
- 861 Oxidation treatments for SiC particles and its compatibility with glass  
M. VILLEGRAS, T. SIERRA, F. LUCAS, J.F. FERNÁNDEZ & A.C. CABALLERO (Spain)
- 867 Some observations on filter pressing and sintering of yttria-stabilized zirconia nanopowder  
L. ZYCH & K. HABERKO (Poland)
- 873 Effect of internal binder on microstructure in compacts made from granules  
S. TANAKA, C. CHIA-PIN, Z. KATO & K. UEMATSU (Japan)
- 879 Effects of powder characteristics, solid loading and dispersant on bubble content in aqueous alumina slurries  
S.W. JIANG, T. MATSUKAWA, S. TANAKA & K. UEMATSU (Japan)
- Symposium C*
- 887 Mechanisms at structural phase transitions  
H. BÖHM (Germany)

- 893 Structural characterisation of Er–Si–Al–O–N glasses by Raman spectroscopy  
E. DOLEKCEKIC (Ireland, Turkey), M.J. POMEROY & S. HAMPSHIRE (Ireland)
- 899 Investigation of thermal stresses in dental restoration by mathematical method  
H. HASKAN, T. BOYRAZ & M.A. KILICARSLAN (Turkey)
- 903 Spectroscopic study of spinel  $ZnCr_2O_4$  obtained from mechanically activated  $ZnO$ – $Cr_2O_3$  mixtures  
Z.V. MARINKOVIĆ STANOJEVIĆ, N. ROMČEVIĆ & B. STOJANOVIĆ (Serbia and Montenegro)
- Symposium D*
- 909 Carbon nanocoatings on active materials for Li-ion batteries  
R. DOMINKO, M. GABERSCEK, M. BELE, D. MIHAJOVIC & J. JAMNIK (Slovenia)
- 915 Tribological performances of  $Mo_6S_3I_6$  nanowires  
F. DASSENOY, L. JOLY-POTTUZ, J.M. MARTIN (France), D. VRBANIC, A. MRZEL, D. MIHAJOVIC (Slovenia), W. VOGEL (Germany) & G. MONTAGNAC (France)
- 921 Spark plasma sintering of cobalt ferrite nanopowders prepared by coprecipitation and hydrothermal synthesis  
N. MILLOT, S. LE GALLET, D. AYMES, F. BERNARD (France) & Y. GRIN (Germany)
- 927 Formation of silver iodide particles from thermodynamically stable clusters using ultrasonic spray pyrolysis  
I.L. VALIDŽIĆ, V. JOKANOVIĆ, D.P. USKOKOVIĆ & J.M. NEDELJKOVIĆ (Serbia and Montenegro)
- 931 Dip-coating on  $TiO_2$  foams using a suspension of Pt– $TiO_2$  nanopowder synthesized by laser pyrolysis—preliminary evaluation of the catalytic performances of the resulting composites in deVOC reactions  
S. GIRAUD, G. LOUPIAS, H. MASKROT, N. HERLIN-BOIME, S. VALANGE, E. GUÉLOU, J. BARRAULT & Z. GABELICA (France)
- 937 Preparation of  $BiFeO_3$  films by wet chemical method and their characterization  
V. FRUTH, E. TENEÀ, M. GARTNER, M. ANASTASESCU, D. BERGER (Romania), R. RAMER (Australia) & M. ZAHARESCU (Romania)
- 941 Synthesis of nanosized zinc ferrites from liquid precursors in RF thermal plasma reactor  
I. MOHAI, L. GÁL, J. SZÉPVÖLGYI, J. GUBICZA & Z. FARKAS (Hungary)
- 947 Synthesis of nanometer alumina particles by plasma transferred arc alternative  
C. CHAZELAS, J.F. COUDERT, J. JARRIGE & P. FAUCHAIS (France)
- 951  $CoAl_2O_4$ –mullite composites prepared by sol–gel processes  
S. KURAJICA, E. TKALCEC (Croatia) & J. SCHMAUCH (Germany)
- 959 Modelling of electrical properties of Ni–YSZ composites  
M. MARINŠEK, S. PEJOVNIK & J. MAČEK (Slovenia)
- 965 Characteristics of nano-sized  $ZnGa_2O_4$  phosphor prepared by solution combustion method and solid state reaction method  
J.-H. LEE, H.-J. PARK, K. YOO, B.-W. KIM, J.C. LEE & S. PARK (Republic of Korea)
- 969 Silicon–titanium oxycarbide glasses as bimodal porous inorganic membranes  
R. PEÑA-ALONSO (Spain), L. TÉLLEZ (D.F. México), A. TAMAYO, F. RUBIO, J. RUBIO & J.L. OTEO (Spain)
- 975 Electrical conductivity of  $Mo_6S_3I_6$  and  $Mo_6S_{4.5}I_{4.5}$  nanowires  
D. VRBANIC, S. PEJOVNIK, D. MIHAJOVIC & Z. KUTNJAK (Slovenia)
- 979 Field assisted sintering of electro-conductive  $ZrO_2$ -based composites  
K. VANMEENSEL, A. LAPTEV, O. VAN DER BIEST & J. VLEUGELS (Belgium)
- 987 Copper(I) oxide and metallic copper particles formed in 1,2-propane diol  
A. ANŽLOVAR, Z.C. OREL & M. ŽIGON (Slovenia)
- 993 Steiner systems ( $t$ , $k$ , schemes) and special features of the nanostructures symmetry description  
M. SAMOYLOVICH & A. TALIS (Russia)
- 1001 A comparative study of the influence of milling media on the structural and microstructural changes in monoclinic  $ZrO_2$   
G. ŠTEFANIĆ, S. MUSIC & A. GAJOVIĆ (Croatia)

- 1017 Optimization of chromium oxide nanopowders dispersion for spray-drying  
A. CELLARD, R. ZENATI, V. GARNIER, G. FANTOZZI & G. BARET (France)
- 1023 Synthesis and characterization of inorganic, lamellar nanofillers with high aspect ratio  
C. HENRIST, A. RULMONT & R. CLOOTS (Belgium)
- Symposium E*
- 1029 Microwave properties of ferromagnetic composites and metamaterials  
A.L. ADENOT-ENGELVIN, C. DUDEK, P. TONEGUZZO & O. ACHER (France)
- 1035 Local current measurement in a solid oxide fuel cell repeat element  
F. RAVUSSIN, J. VAN HERLE, N. AUTISSIER, M. MOLINELLI, D. LARRAIN & D. FAVRAT (Switzerland)
- 1041 Conductivity and structure features of  $\text{Ce}_{1-x}\text{Gd}_x\text{O}_{2-\delta}$  solid electrolytes fabricated by compaction and sintering of weakly agglomerated nanopowders  
V.V. IVANOV, V.R. KHRUSTOV, Y.A. KOTOV, A.I. MEDVEDEV, A.M. MURZAKAEV, S.N. SHKERIN & A.V. NIKONOV (Russia)
- 1047 Fabrication and characterisation of barium strontium titanate thick film device structures for microwave applications  
D. ZHANG, W. HU, C. MEGGS, B. SU, T. PRICE, D. IDDLES, M.J. LANCASTER & T.W. BUTTON (UK)
- 1053 Low temperature sintering of  $\text{BaO}-\text{Sm}_2\text{O}_3-4\text{TiO}_2$  ceramics  
K.-H. CHO, J.-B. LIM, S. NAHM, H.-T. KIM, J.-H. KIM, J.-H. PAIK & H.-J. LEE (Republic of Korea)
- 1059  $\text{MgWO}_4$ ,  $\text{ZnWO}_4$ ,  $\text{NiWO}_4$  and  $\text{CoWO}_4$  microwave dielectric ceramics  
R.C. PULLAR, S. FARRAH & N.M. ALFORD (UK)
- 1065 Effect of  $\text{B}_2\text{O}_3$  on the microstructure and microwave dielectric properties of  $\text{Ba}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$  ceramics  
B.-J. KIM, M.-H. KIM, S. NAHM, H.-T. KIM, J.-H. KIM, J.-H. PAIK, H. RYU & H.-J. LEE (Republic of Korea)
- 1071 The application of effective-medium theory for the nondestructive characterization of ceramic composites  
V.B. BREGAR, D. LISJAK, A.ŽNIDARŠIČ & M. DROFENIK (Slovenia)
- 1077 Effects of  $\text{MgO}$  coating on microstructure and dielectric properties of  $\text{BaTiO}_3$   
J.S. PARK & Y.H. HAN (Republic of Korea)
- 1083 Optimization of processing parameters for preparation of  $\text{LaNiO}_3$  thin films from the citrate precursors  
M. POČUĆA, G. BRANKOVIĆ, Z. BRANKOVIĆ, D. VASILJEVIC-RADOVIĆ & D. POLETI (Serbia and Montenegro)
- 1087 High frequency dielectric properties of hot-pressed  $\text{Ag}(\text{Nb}_x\text{Ta}_{1-x})\text{O}_3$  solid solutions E-P-09  
S. DUGUEY, R. LEBOURGEOIS, J.-P. GANNE & J.-M. HEINTZ (France)
- 1093 Ferroelectric behavior in 5/65/35 hot-pressed PLZT ceramics  
B. VODOPIVEC, Z. KUTNJAK, J. HOLC & M. KOSEC (Slovenia)
- 1097 Multifunctional ceramics  $\text{Ba}_{1-x}\text{Sr}_x(\text{Ti}_{1-x}\text{Li}_x)\text{O}_{3-3x}\text{F}_{3x}$   
M. MEYAR & L. TAİBI-BENZİADA (Algeria)
- 1101  $\text{ZnO}$  varistors with reduced amount of additives prepared by direct mixing of constituent phases  
Z. BRANKOVIĆ, G. BRANKOVIĆ (Serbia and Montenegro), S. BERNIK (Slovenia) & M. ŽUNIĆ (Serbia and Montenegro)
- 1105 Phase transformation in doped Y–Ba–Cu–O superconductors obtained by different melt processing techniques  
M. ENISZ, E. KRISTOF-MAKO & D. ORAVETZ (Hungary)
- 1113 Effects of  $\text{Y}_2\text{O}_3$  addition on electrical conductivity and dielectric properties of Ba-excess  $\text{BaTiO}_3$   
J.H. KIM, S.H. YOON & Y.H. HAN (Republic of Korea)
- 1117 Effect of the sintering temperature on the  $\text{Ba}(\text{Zn}_{1/3}\text{Ta}_{2/3})\text{O}_3$  dielectric properties  
A. IOACHIM, M.I. TOACSAN, M.G. BANCIU, L. NEDELCU, C.A. DUTU, M. FEDER, C. PLAPCIANU, F. LIFEI & P. NITA (Romania)
- 1123 Synthesis, microstructure and dielectric properties of antimony-doped strontium titanate ceramics  
A. IANCULESCU, A. BRĂILEANU & G. VOICU (Romania)

- 1129 Structure–properties correlations for barium titanate thin films obtained by rf-sputtering  
A. IANCULESCU (Romania), B. DESPAX, V. BLEY, T. LEBEY (France), R. GAVRILĂ & N. DRĂGAN (Romania)
- 1137 Electrochemical properties of the LiCoO<sub>2</sub> powder obtained by sol–gel method  
L. PREDOANĂ (Romania), A. BARAU (Bulgaria), M. ZAHARESCU (Romania), H. VASSILCHINA, N. VELINOVA, B. BANOV & A. MOMCHILOV (Bulgaria)
- 1143 Effect of bonding layer on the electromechanical response of the cymbal metal-ceramic piezocomposite  
P. OCHOA, J.L. PONS, M. VILLEGRAS & J.F. FERNANDEZ (Spain)
- 1151 Sol–gel processing of TeO<sub>2</sub> thin films from citric acid stabilised tellurium isopropoxide precursor  
A. LECOMTE, F. BAMIÈRE, S. COSTE, P. THOMAS & J.C. CHAMPARNAUD-MESJARD (France)
- 1159 Defect chemistry and electrical degradation of BaTiO<sub>3</sub> co-doped with Ho and Mn  
J. JEONG, E.J. LEE & Y.H. HAN (Republic of Korea)
- 1165 Fabrication of Nd:Y<sub>2</sub>O<sub>3</sub> transparent ceramics by pulsed compaction and sintering of weakly agglomerated nanopowders  
A.S. KAYGORODOV, V.V. IVANOV, V.R. KHRUSTOV, Y.A. KOTOV, A.I. MEDVEDEV, V.V. OSIPOV, M.G. IVANOV, A.N. ORLOV & A.M. MURZAKAEV (Russia)
- 1171 Study of copper substitutions in Ag(Nb<sub>x</sub>Ta<sub>1-x</sub>)O<sub>3</sub> solid solutions  
S. DUGUEY, R. LEBOURGEOIS, C. GRATTEPAIN, J.-M. HEINTZ & J.-P. GANNE (France)
- 1177 Ferroelectric ceramics based on the BaO–SrO–TiO<sub>2</sub> ternary system for microwave applications  
A. IOACHIM (Romania), R. RAMER (Australia), M.I. TOACSAN, M.G. BANCIU, L. NEDELCU, C.A. DUTU, F. VASILIU, H.V. ALEXANDRU, C. BERBECARU, G. STOICA & P. NITA (Romania)
- 1181 The synthesis and microwave dielectric properties of Sr<sub>x</sub>Ba<sub>1-x</sub>Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub> and Ca<sub>y</sub>Ba<sub>1-y</sub>Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub> ceramics  
M.M. KRZMANC, M. VALANT & D. SUVOROV (Slovenia)
- 1187 Elaboration and ionic conduction of apatite-type lanthanum silicates doped with Ba, La<sub>10-x</sub>Ba<sub>x</sub>(SiO<sub>4</sub>)<sub>6</sub>O<sub>3-x</sub>/2 with x = 0.25–2  
A. VINCENT, S.B. SAVIGNAT & F. GERVAIS (France)
- 1193 Relationships between dielectric breakdown resistance and charge transport in alumina materials—Effects of the microstructure  
M. TOUZIN, D. GOEURIOT (France), H.-J. FITTING (Germany), C. GUERRET-PIÉCOURT, D. JUVÉ & D. TRÉHEUX (France)
- 1199 Electrorheological response of modified silica suspensions  
K. CHERIF, S. MOALLA, S. SASSI & H. ZARROUK (Tunisia)
- Symposium F*
- 1203 A silicon nitride reference material—A testing program of ESIS TC6  
T. LUBE (Austria) & J. DUSZA (Slovak Republic)
- 1211 Preparation and properties of C/C–SiC nano-composites  
K. KRNEL, Z. STADLER & T. KOSMAČ ()
- 1217 Oxidation behaviour of carbon short fibre reinforced C/SiC composites  
F. RAETHER, J. MEINHARDT & A. KIENZLE (Germany)
- 1223 Thermal diffusivity measurement of SiC fibre reinforced BMAS glass ceramic composites exposed mechanical damage  
R. YILMAZ (Turkey)
- 1229 Development of a high temperature C<sub>f</sub>/XSi<sub>2</sub>–SiC (X = Mo, Ti) composite via reactive melt infiltration  
M. ESFEHANIAN, J. GÜNSTER (Germany), F. MOZTARZADEH (Iran) & J.G. HEINRICH (Germany)
- 1237 The influence of post-sintering HIP on the microstructure, hardness, and indentation fracture toughness of polymer-derived Al<sub>2</sub>O<sub>3</sub>–SiC nanocomposites  
D. GALUSEK (Slovak Republic, Germany), J. SEDLÁČEK, P. ŠVANČÁREK (Slovak Republic), R. RIEDEL, R. SATET & M. HOFFMANN (Germany)
- 1247 ZrO<sub>2</sub>–WC nanocomposites with superior properties  
D. JIANG, O. VAN DER BIEST & J. VLEUGELS (Belgium)

- 1253 [NZP]: A new family of ceramics with low thermal expansion and tunable properties  
P. OIKONOMOU, C. DEDELOUDIS, C.J. STOURNARAS & C. FTIKOS (Greece)
- 1259 Analysis of micro-machining characteristics of  $\text{Si}_3\text{N}_4$ -hBN composites  
M.W. CHO, D.W. KIM & W.S. CHO (Republic of Korea)
- 1267 Sol-gel-based carbon/silicon carbide  
V. LIEDTKE, I.H. OLIVARES, M. LANGER & Y.F. HARUVY (Austria)
- 1273 Processing, microstructure and mechanical properties of  $\text{Al}_2\text{O}_3$ –Cr nanocomposites  
M. CHMIELEWSKI & K. PIETRZAK (Poland)
- 1281 Interlayer of  $\text{Al}_2\text{O}_3$ –Cr functionally graded material for reduction of thermal stresses in alumina–heat resisting steel joints  
K. PIETRZAK, D. KALIŃSKI & M. CHMIELEWSKI (Poland)
- 1287 Residual stresses in particulate composites with alumina and zirconia matrices  
G. GRABOWSKI & Z. PĘDZICH (Poland)
- 1293 Glass–ceramic functionally graded materials produced with different methods  
V. CANNILLO, L. LUSVARGHI, T. MANFREDINI, M. MONTORSI, C. SILIGARDI & A. SOLA (Italy)
- 1299 Oxidation protection of C/C–SiC composites by an electrophoretically deposited mullite precursor: Cyclic thermogravimetric analysis  
T. DAMJANOVIĆ, C. ARGIRUSIS, B. JOKANOVIC, G. BORCHARDT, K. MORITZ, E. MÜLLER, R. HERBIG & R. WEISS (Germany)
- 1303 Yttrium silicate coating system for oxidation protection of C/C–Si–SiC composites: Electrophoretic deposition and oxygen self-diffusion measurements  
C. ARGIRUSIS, T. DAMJANOVIĆ & G. BORCHARDT (Germany)
- 1307 Elastic properties and damping behaviour of alumina–alumina/zirconia laminates  
K. LAMBRINU, T. LAUWAGIE (Belgium), F. CHALVET, G. DE PORTU (Italy), N. TASSINI, S. PATSIAS (UK), T. LUBE (Austria) & O. VAN DER BIEST (Belgium)
- 1313 The use of MgO-coated SiC powders as low temperature densification materials  
Z. TATLI (Turkey) & D.P. THOMPSON (UK)
- 1319 Effects of  $\text{TiO}_2$  on the mechanical properties of the  $\text{Al}_2\text{O}_3$ – $\text{TiO}_2$  plasma sprayed coating  
R. YILMAZ, A.O. KURT, A. DEMIR & Z. TATLI (Turkey)
- 1325 Functional gradient alumina ceramic materials—Heat treatment of bodies prepared by slip casting method  
J. ANDERTOVÁ, R. TLÁSKAL, M. MARYŠKA & J. HAVRDA (Czech Republic)
- 1333 Tunnelling cracks in  $\text{Al}_2\text{O}_3/\text{Al}_2\text{O}_3$ – $\text{ZrO}_2$  layered composites  
S.B. KLOPČIČ, M. AMBROZIČ, T. KOSMAČ & S. NOVAK (Slovenia)
- 1339 Characterization of (Nd,Y)-TZP ceramics prepared by a colloidal suspension coating technique  
J. VLEUGELS (Belgium), T. XU (PR China), S. HUANG (Belgium, PR China), Y. KAN, P. WANG, L. LI (PR China) & O. VAN DER BIEST (Belgium)
- 1345 Preparation and thermal conductivity characterisation of highly porous ceramics. Comparison between experimental results, analytical calculations and numerical simulations  
B. NAIT-ALI (France), K. HABERKO (Poland), H. VESTEGHEM, J. ABSI & D.S. SMITH (France)
- 1351 Superplastic joining of alumina and zirconia ceramics  
M. BONIECKI, D. KALIŃSKI, Z. LIBRANT & W. WESOŁOWSKI (Poland)
- 1357 Corrosion of pressureless sintered  $\text{ZrB}_2$ – $\text{MoSi}_2$  composite in  $\text{H}_2\text{SO}_4$  aqueous solution  
M. BRACH, V. MEDRI & A. BELLOSI (Italy)
- 1361 Relationships between microstructure and electrical properties of liquid-phase sintered silicon carbide materials using impedance spectroscopy  
A. CAN, D.S. MCLACHLAN, G. SAUTI (South Africa) & M. HERRMANN (Germany)
- 1365 Mechanical properties and thermal shock behaviour of an alumina/zirconia functionally graded material prepared by electrophoretic deposition  
P. HVIZDOŠ, D. JONSSON, M. ANGLADA (Spain), G. ANNÉ & O. VAN DER BIEST (Belgium)

- 1373 Multilayer ceramic composites with high failure resistance  
H. TOMASZEWSKI, H. WĘGLARZ, A. WAJLER, M. BONIECKI & D. KALINSKI (Poland)
- 1379 Influence of twin cations on zirconia composites stability  
E. VOLCEANOV, A. VOLCEANOV, Ș. STOLERIU, Ș. MOTOC, A. MELINESCU & C. PLĂPCIANU (Romania)
- 1389 Alumina–zirconia layered ceramics fabricated by stacking water processed green ceramic tapes  
J. GURAUSKIS, A.J. SÁNCHEZ-HERENCIA & C. BAUDÍN (Spain)
- 1395 Microstructure of latex-filled plaster composites  
S. EVE, M. GOMINA, J.-C. OZOUF & G. ORANGE (France)
- 1399 Nanoindentation characterization of SiC-based ceramics  
S. GUICCIARDI, A. BALBO, D. SCITI, C. MELANDRI (Italy) & G. PEZZOTTI (Japan)
- 1405 Synthesis of nickel oxide/zirconia powders via a modified Pechini method  
T. RAZPOTNIK & J. MAČEK (Slovenia)
- 1411 Friction behavior of sintered metallic brake pads on a C/C–SiC composite brake disc  
Z. STADLER, K. KRNEL & T. KOSMAC (Slovenia)
- 1419 Improving strength by controlling segregation in liquid phase sintered aluminium nitride ceramics  
A. KLIMERA, F. RAETHER & J. RUSKA (Germany)
- 1425 Microstructure and mechanical properties of AlN–hBN based machinable ceramics prepared by pressureless sintering  
W.S. CHO, Z.H. PIAO, K.J. LEE, Y.C. YOO, J.H. LEE, M.W. CHO, Y.C. HONG, K. PARK & W.S. HWANG (Republic of Korea)
- 1431 Crack healing, reopening and thermal expansion behavior of  $\text{Al}_2\text{TiO}_5$  ceramics at high temperature  
H.C. KIM, K.S. LEE, O.S. KWEON (Republic of Korea), C.G. ANEZIRIS (Germany) & I.J. KIM (Republic of Korea)
- 1435 Structure of kaoline–alumina based foam ceramics for high temperature applications  
T. JUETTNER, H. MOERTEL (Germany), V. SVINKA & R. SVINKA (Latvia)
- 1443 Threshold strength evaluation on an  $\text{Al}_2\text{O}_3$ – $\text{ZrO}_2$  multilayered system  
R. BERMEJO, Y. TORRES, C. BAUDÍN, A.J. SÁNCHEZ-HERENCIA (Spain), J. PASCUAL (Austria), M. ANGLADA & L. LLANES (Spain)
- 1449 Effective fracture toughness in  $\text{Al}_2\text{O}_3$ – $\text{Al}_2\text{O}_3/\text{ZrO}_2$  laminates  
T. LUBE, J. PASCUAL (Austria), F. CHALVET & G. DE PORTU (Italy)
- 1455 Layered materials with high strength and flaw tolerance based on alumina and aluminium titanate  
S. BUENO & C. BAUDÍN (Spain)
- 1463 Processing and mechanical properties of textured mullite/zirconia composites  
C. ÖZTÜRK & Y.K. TÜR (Turkey)
- 1469 Processing by tape casting and mechanical behaviour of aluminous cement-based matrix alumina fibers composites  
J. SORO, A. SMITH & C. GAULT (France)
- 1475 Anelasticity of precursor derived Si–B–C–N ceramics  
R. KUMAR, G. RIXECKER & F. ALDINGER (Germany)
- 1481 The ball on three balls test—Strength and failure analysis of different materials  
R. DANZER, W. HARRER, P. SUPANCIC, T. LUBE, Z. WANG & A. BÖRGER (Austria)
- 1487 Study of the amplitude-dependent mechanical behaviour of yttria-stabilised zirconia thermal barrier coatings  
N. TASSINI (UK), K. LAMBRINOU (Belgium), I. MIRCEA, M. BARTSCH (Germany), S. PATSIAS (UK) & O. VAN DER BIEST (Belgium)
- 1493 Manufacturing and performance testing of sol/gel based oxidation protection systems for re-usable space vehicles  
V. LIEDTKE, I.H. OLIVARES, M. LANGER & Y.F. HARUVY (Austria)
- 1503 Structural and textural changes of CVD-SiC to indentation, high temperature creep and irradiation  
G. CHOLLON, J.M. VALLEROT, D. HELARY & S. JOUANNIGOT (France)

- 1513 Experimental and numerical study of the thermomechanical behaviour of refractory model materials  
Y. JOLIFF, J. ABSI, J.C. GLANDUS, M. HUGER & N. TESSIER-DOYEN (France)
- Symposium G*
- 1521 Principles and phenomena of bioengineering with glass-ceramics for dental restoration  
W. HÖLAND, V. RHEINBERGER, E. APEL & C. VAN'T HOEN (Liechtenstein)
- 1527 Design of novel bioactive materials through organic modification of calcium silicate  
C. OHTSUKI, T. MIYAZAKI, M. KAMITAKAHARA & M. TANIHARA (Japan)
- 1535 Factors influencing the reliability of ceramic femoral components  
R. MORRELL & S. HUGHES (UK)
- 1543 Factors affecting crystallization of bioactive glasses  
H. ARSTILA, E. VEDEL, L. HUPA & M. HUPA (Finland)
- 1547 Key role of processing to avoid low temperature ageing in alumina zirconia composites for orthopaedic application  
D. GUTKNECHT, J. CHEVALIER, V. GARNIER & G. FANTOZZI (France)
- 1553 Titania-based bioactive materials  
T. KOKUBO, T. MATSUSHITA & H. TAKADAMA (Japan)
- 1559 Micromechanical properties of a hydroxyapatite/poly-L-lactide biocomposite using nanoindentation and modulus mapping  
P.S. USKOKOVIC (Serbia and Montenegro), C.Y. TANG, C.P. TSUI (PR China), N. IGNJATOVIC & D.P. USKOKOVIC (Serbia and Montenegro)
- 1565 The processing-related fracture resistance and reliability of root dental posts made from Y-TZP  
A. DAKSKOBLER, P. JEVNIKAR, Č. OBLAK & T. KOSMAČ (Slovenia)
- 1571 Influence of ZrO<sub>2</sub> on the crystallization and properties of lithium disilicate glass-ceramics derived from a multi-component system  
E. APEL, C. VAN'T HOEN, V. RHEINBERGER & W. HÖLAND (Liechtenstein)
- 1579 Crystallization of oxyapatite in glass-ceramics  
C. VAN'T HOEN, V. RHEINBERGER, W. HÖLAND & E. APEL (Liechtenstein)
- 1585 Fabrication of poly(vinyl alcohol)-apatite hybrids through biomimetic process  
C. YOU, T. MIYAZAKI, E. ISHIDA, M. ASHIZUKA, C. OHTSUKI & M. TANIHARA (Japan)
- 1589 Biphasic calcium phosphate coated with poly-D,L-lactide-co-glycolide biomaterial as a bone substitute  
N. IGNJATOVIC, P. NINKOV, Z. AJDUKOVIC, D. VASILJEVIC-RADOVIC & D. USKOKOVIC (Serbia and Montenegro)
- 1595 Bioactive glass-apatite composite coating for titanium implant synthesized by electrophoretic deposition  
D. STOJANOVIC, B. JOKIC, D. VELJOVIC, R. PETROVIC, P.S. USKOKOVIC & D. JANACKOVIC (Serbia and Montenegro)
- 1601 Preparation of calcium-phosphate bioceramics from natural resources  
C. BALÁZSI, F. WÉBER, Z. KÖVÉR, E. HORVÁTH & C. NÉMETH (Hungary)
- Symposium H*
- 1607 Ceramic tiles: Above and beyond traditional applications  
A.M. BERTO (Spain)
- 1615 Thermal spraying to coat traditional ceramic substrates: Case studies  
C. BARTULI, L. LUSVARGHI, T. MANFREDINI & T. VALENTE (Italy)
- 1623 CRT glass state of the art. A case study: Recycling in ceramic glazes  
F. ANDREOLA, L. BARBIERI, A. CORRADINI & I. LANCELLOTTI (Italy)
- 1631 A non-destructive method to assess delamination of ceramic tiles  
M. ROMAGNOLI, M. BURANI (Italy), G. TARI (UK) & J.M.F. FERREIRA (Portugal)
- 1637 Effect of time and furnace atmosphere on the sintering of glasses from dismantled cathode ray tubes  
E. BERNARDO, G. SCARINCI, S. HREGLICH & G. ZANGIACOMI (Italy)

- 1645 Thermal behaviour of clay mixtures with bauxite residue for the production of heavy-clay ceramics  
Y. PONTIKES, P. NIKOLOPOULOS & G.N. ANGELOPOULOS (Greece)
- 1651 Effect of iron oxide addition on the hydration resistance and bulk density of doloma  
H.A. YEPREM (Turkey)
- 1657 Thermal behaviour of clays for traditional ceramics with soda–lime–silica waste glass admixture  
Y. PONTIKES (Greece), L. ESPOSITO, A. TUCCI (Italy) & G.N. ANGELOPOULOS (Greece)
- 1665 The influence of incorporation of ZnO-containing glazes on the properties of hard porcelains  
D.U. TULYAGANOV (Portugal, Uzbekistan), S. AGATHOPOULOS, H.R. FERNANDES & J.M.F. FERREIRA (Portugal)
- 1671 Influence of firing parameters on phase composition of raw glazes  
L. FRÖBERG, T. KRONBERG, L. HUPA & M. HUPA (Finland)
- 1677 Influence of calcite on the microstructure and mechanical properties of pottery ceramics obtained from a kaolinite-rich clay from Burkina Faso  
K. TRAORÉ, G.V. OUÉDRAOGO (Burkina Faso), P. BLANCHART, J.-P. JERNOT & M. GOMINA (France)
- 1683 Influence of raw materials morphology on properties of magnesia-spinel refractories  
J. SZCZERBA, Z. PĘDZICH, M. NIKIEL & D. KAPUSCINSKA (Poland)
- 1691 Study of montmorillonite and cationic activators sistem rheological characteristic change mechanism  
Z. RADOJEVIĆ & A. MITROVIĆ (Serbia and Montenegro)
- 1697 Limit molecular formulas and target formulas determination for feldspar porcelain glazes  
R.L. DUMITRACHE, I. TEOREANU & A. VOLCEANOV (Romania)
- 1703 Specific features of the telluride glasses doped by Pr<sup>3+</sup> nanocrystallites  
J. WASYLAK & I.V. KITYK (Poland)
- 1707 Sol–gel preparation of 2CaO·SiO<sub>2</sub>  
R. CHRYSAFI, T. PERRAKI & G. KAKALI (Greece)
- 1711 Thaumasite form of sulfate attack (TSA) in limestone cement pastes  
S. TSIVILIS, K. SOTIRIADIS & A. SKAROPOULOU (Greece)
- 1715 Investigation of borax waste behaviour in tile production  
S. KURAMA, A. KARA & H. KURAMA (Turkey)
- 1721 Production of glass–ceramics from fly ash using arc plasma  
Z. KÁROLY, I. MOHAI, M. TÓTH, F. WÉBER & J. SZÉPVÖLGYI (Hungary)
- 1727 Influence of the clay type on the pore structure of structural ceramics  
S. FREYBURG & A. SCHWARZ (Germany)
- 1735 Rheological behaviour of hydraulic lime-based mortars  
M.P. SEABRA, J.A. LABRINCHA & V.M. FERREIRA (Portugal)
- 1743 Multitechnique approach to V–ZrSiO<sub>4</sub> pigment characterization and synthesis optimization  
C. CASELLI (USA), G. LUSVARDI, G. MALAVASI, L. MENABUE & P. MISCELLI (Italy)
- 1751 Production of coloured zircon pigments from zircon  
E. OZEL & S. TURAN (Turkey)
- 1759 Size and shape characterization of oblate and prolate particles  
W. PABST (Czech Republic), C. BERTHOLD (Germany) & E. GREGOROVÁ (Czech Republic)
- 1763 Influence of lichen biocorrosion on the quality of ceramic roofing tiles  
M. RADEKA, J. RANOGLAJEC, J. KIURSKI, S. MARKOV & R. MARINKOVIĆ-NEDUČIN (Serbia and Montenegro)
- 1767 Measurement of Vickers hardness on ceramic floor tiles  
L. SIDJANIN, D. RAJNOVIC, J. RANOGLAJEC & E. MOLNAR (Serbia and Montenegro)
- 1775 Soil-resistant surfaces for traditional ceramics  
T. KRONBERG, A.-C. RITSCHKOFF, R. MAHLBERG, J. MANNILA, M. KALLIO, A. VESA & L. HUPA (Finland)

- 1781 Chemical synthesis of hydraulic calcium aluminate compounds using the Pechini technique  
A. GAKI, R. CHRYSAFI & G. KAKALI (Greece)
- 1785 Wet chemical synthesis of monocalcium aluminate  
A. GAKI, T. PERRAKI & G. KAKALI (Greece)
- 1791 Microstructural study of opaque glazes obtained from frits of the system:  $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-B}_2\text{O}_3\text{-}(\text{P}_2\text{O}_5)\text{-CaO-K}_2\text{O-TiO}_2$   
E. BOU, A. MORENO, A. ESCARDINO & A. GOZALBO (Spain)
- 1797 Crystallization behaviour of  $(1 - x)\text{TeO}_2\text{-}x\text{BaO}$  ( $x = 0.10, 0.15$  and  $0.25$  in molar ratio) glasses  
C. EŞİN, I. KABALCI, M.L. ÖVEÇOĞLU & G. ÖZEN (Turkey)
- 1801 Microstructural characterization of  $(1 - x)\text{TeO}_2\text{-}x\text{PbF}_2$  ( $x = 0.10$ , and  $0.25$  mol) glasses  
M.L. ÖVEÇOĞLU, İ. KABALCI, G. ÖZEN & B. ÖZ (Turkey)
- 1805 Study of the devitrification behaviour of a barium magnesium aluminosilicate glass-ceramic  
K. LAMBRINOU & O. VAN DER BIEST (Belgium)
- 1811 Chemical durability of glazed surfaces  
L. FRÖBERG, T. KRONBERG, S. TÖRNBLOM & L. HUPA (Finland)
- 1817 Glass composite seals for SOFC application  
K.A. NIELSEN, M. SOLVANG, S.B.L. NIELSEN, A.R. DINESEN, D. BEEAFF & P.H. LARSEN (Denmark)
- 1823 Thermal properties and crystallization behavior of some  $\text{TeO}_2\text{-K}_2\text{O}$  glasses  
B. ÖZ, İ. KABALCI, M.L. ÖVEÇOĞLU & G. ÖZEN (Turkey)
- 1829 Effect of fluoride nucleating catalysts on crystallization of cordierite from modified basalt-based glasses  
A.W.A. EL-SHENNAWI, M.M. MORSI & S.A.M. ABDEL-HAMEED (Egypt)
- 1837 Correlation between *in vitro* and *in vivo* dissolution behaviour of stonewools by nonlinear modelling techniques  
A. BULSARI, N. BERGMAN (Finland), I. EUSCH (Austria), J. FELLMAN, M. PERANDER (Finland) & D. SUVOROV (Slovenia)
- 1843 Elastic properties and microstructure: study of two fused cast refractory materials  
E. YEUGO FOGAING, M. HUGER & C. GAULT (France)
- 1849 Properties of alumina based low-cement self flowing castable refractories  
E. KARADENIZ, C. GURCAN, S. OZGEN & S. AYDIN (Turkey)
- 1855 Recycling of microwave inertised asbestos containing waste in refractory materials  
D.N. BOCCACCINI, C. LEONELLI, M.R. RIVASI, M. ROMAGNOLI, P. VERONESI, G.C. PELLACANI (Italy) & A.R. BOCCACCINI (UK)
- 1859 Determination of thermal shock resistance in refractory materials by ultrasonic pulse velocity measurement  
D.N. BOCCACCINI, M. ROMAGNOLI, E. KAMSEU, P. VERONESI, C. LEONELLI & G.C. PELLACANI (Italy)
- 1865 Methodology of discovering and control of clay roofing tile textural inhomogeneities  
Z. BACKALIC, J. RANOGLAJEC, R. MARINKOVIC-NEDUCIN, M. VREBALOV & M. RADEKA (Serbia and Montenegro)
- 1871 Mixture of deflocculants: A systematic approach  
M. ROMAGNOLI & F. ANDREOLA (Italy)
- 1875 New body mixes for porcelain stoneware tiles with improved mechanical characteristics  
A. TUCCI, L. ESPOSITO, L. MALMUSI & E. RAMBALDI (Italy)
- 1883 Optimal size distribution to obtain the densest packing: A different approach  
M. ROMAGNOLI & M.R. RIVASI (Italy)
- 1889 Wet-pressing of handles in table porcelain manufacturing  
K. SCHINDLER, A. ROOSEN, T. JÜTTNER & G. RÖSLER (Germany)
- 1893 Effect of alumina on ceramic properties of cordierite glass-ceramic from basalt rock  
S.A.M. ABDEL-HAMEED & I.M. BAKR (Egypt)
- 1899 Ceramic pigments with chromium content from leather wastes  
R.I. LAZĂU, C. PĂCURARIU, D. BECHERESCU & R. IANOŞ (Romania)

- I Keyword List
- III Notes for Authors

**Volume 27 Number 4 2007**

- 1905 Comparison of instrumented Knoop and Vickers hardness measurements on various soft materials and hard ceramics  
D. CHICOT, D. MERCIER, F. ROUDET (France), K. SILVA, M.H. STAIA (Venezuela) & J. LESAGE (France)
- 1913 The effect of rare earth dopants on grain boundary cohesion in alumina  
G.D. WEST, J.M. PERKINS & M.H. LEWIS (UK)
- 1919 Thermal shock of alumina by compressed air cooling  
F. HUGOT & J.C. GLANDUS (France)
- 1927 The application of automated image analysis to dense heterogeneities in partially sintered alumina  
O. DENGIZ, R. MCAFEE, I. NETTLESHIP & A.E. SMITH (USA)
- 1935 Characterization of glass–alumina functionally graded coatings obtained by plasma spraying  
V. CANNILLO, L. LUSVARGHI, C. SILIGARDI & A. SOLA (Italy)
- 1945 A novel process for making radiopaque materials using bauxite—Red mud  
S.S. AMRITPHALE, A. ANSHUL, N. CHANDRA & N. RAMAKRISHNAN (India)
- 1953 Effect of porosity on carbonation and hydration resistance of CaO materials  
M. CHEN, N. WANG, J. YU (China) & A. YAMAGUCHI (Japan)
- 1961 *In situ* observation of the direct and indirect dissolution of MgO particles in CaO–Al<sub>2</sub>O<sub>3</sub>–SiO<sub>2</sub>-based slags  
J. LIU, M. GUO, P.T. JONES, F. VERHAEGHE, B. BLANPAIN & P. WOLLANTS (Belgium)
- 1973 Characterization of the morphology of cellular ceramics by 3D image processing of X-ray tomography  
E. MAIRE (France), P. COLOMBO (Italy, UK), J. ADRIEN (France), L. BABOUT (USA) & L. BIASETTO (Italy)
- 1983 Iron-oxide nanoparticles supported on sepiolite as a novel humidity sensor  
A. ESTEBAN-CUBILLO (Spain), J.-M. TULLIANI (Italy), C. PECHARROMÁN & J.S. MOYA (Spain)
- 1991 Comparison of two different precipitation routes leading to Yb doped Y<sub>2</sub>O<sub>3</sub> nano-particles  
J. MOUZON, P. NORDELL, A. THOMAS & M. ODÉN (Sweden)
- 1999 Nucleation and growth of basal-plane inversion boundaries in ZnO  
A. REČNIK, N. DANEU & S. BERNIK (Slovenia)
- 2009 Structural and electrical properties of MgO-doped Mn<sub>1.4</sub>Ni<sub>1.2</sub>Co<sub>0.4-x</sub>Mg<sub>x</sub>O<sub>4</sub> (0 ≤ x ≤ 0.25) NTC thermistors  
K. PARK, S.J. KIM, J.-G. KIM & S. NAHM (Republic of Korea)
- 2017 Middle- and high-permittivity dielectric compositions for low-temperature co-fired ceramics  
Y.-J. CHOI, J.-H. PARK, J.-H. PARK, S. NAHM & J.-G. PARK (Republic of Korea)
- 2025 Effects of pore shape and porosity on the properties of porous PZT 95/5 ceramics  
T. ZENG, X. DONG, C. MAO, Z. ZHOU & H. YANG (PR China)
- 2031 Study of PbZr<sub>0.53</sub>Ti<sub>0.47</sub>O<sub>3</sub> solid solution formation by interaction of perovskite phases  
Ľ. MEDVECKÝ, M. KMECOVÁ (Slovakia) & K. SAKSL (Germany)
- 2039 Copper-doped BaZrO<sub>3</sub> crucibles for YBCO single crystal growth  
N.M. KIRBY, N.W. CHEN-TAN & C.E. BUCKLEY (Australia)
- 2045 Dielectric properties of M-type barium hexaferrite prepared by co-precipitation  
K.K. MALICK, P. SHEPHERD & R.J. GREEN (UK)
- 2053 Microstructural characteristics of TZP/Ni cermets plastically deformed at high temperature  
A. MORALES-RODRÍGUEZ (Spain), G. RICHTER, M. RÜHLE (Germany), A. BRAVO-LEÓN, A. DOMÍNGUEZ-RODRÍGUEZ & M. JIMÉNEZ-MELENDO (Spain)
- 2061 Synthesis of nanosized zirconium carbide by a sol-gel route  
M. DOLLÉ, D. GOSSET, C. BOGICEVIC, F. KAROLAK, D. SIMEONE & G. BALDINOZZI (France)

- 2069 Improved strength-impairing contact damage resistance of  $Ti_3Si(Al)C_2/SiC$  composites  
D. WAN, Y. ZHOU, C. HU & Y. BAO (PR China)
- 2077 Influence of silicon carbide particle size on the microstructure and mechanical properties of zirconium diboride–silicon carbide ceramics  
S. ZHU, W.G. FAHRENHOLTZ & G.E. HILMAS (USA)
- 2085 Self-healing mechanisms of a SiC fiber reinforced multi-layered ceramic matrix composite in high pressure steam environments  
L. QUEMARD, F. REBILLAT, A. GUETTE, H. TAWIL & C. LOUCHET-POUILLERIE (France)
- 2095 Fabrication of mullite-bonded porous silicon carbide ceramics by *in situ* reaction bonding  
S. DING (China), S. ZHU (USA), Y.-P. ZENG & D. JIANG (China)
- 2103 Influence of individual thermal shock parameters on stress generated in silicon nitride and its prediction  
E. GONDAR, M. ROSKO & J. SOMORCIK (Slovak Republic)
- 2111 Gas/solid reaction during sintering of  $Si_3N_4$  ceramics in an air furnace  
N. WANGMOOKLANG, K. SUJIROTE, S. JINAWATH & S. WADA (Thailand)
- 2119 Processing of biomorphic  $Si_3N_4$  ceramics by CVI-R technique with  $SiCl_4/H_2/N_2$  system  
H. GHANEM, N. POPOVSKA & H. GERHARD (Germany)

**Volume 27 Number 5 2007**

- 2127 Electrochemical corrosion of solid and liquid phase sintered silicon carbide in acidic and alkaline environments  
A. ANDREWS (South Africa), M. HERRMANN (Germany), M. SEPHTON, CHR. MACHIO (South Africa) & A. MICHAELIS (Germany)
- 2137 Corrosion of  $\beta$ -sialon-based ceramics by molten steel  
J. KŘEST'AN, O. PRITULA, L. SMRČOK, P. ŠAJGALÍK, Z. LENČÉŠ (Slovak Republic), A. WANNBERG (Sweden) & F. MONTEVERDE (Italy)
- 2145 Nano/macro-hardness and fracture resistance of  $Si_3N_4/SiC$  composites with up to 13 wt.% of SiC nano-particles  
M. BALOG (Slovakia), J. KEČKÉŠ, T. SCHÖBERL (Austria), D. GALUSEK (Slovakia), F. HOFER (Austria), J. KŘEST'AN, Z. LENČÉŠ (Slovakia), J.-L. HUANG (Taiwan) & P. ŠAJGALÍK (Slovakia)
- 2153 The effect of different sintering additives on the electrical and oxidation properties of  $Si_3N_4-MoSi_2$  composites  
Z. GUO, G. BLUGAN, T. GRAULE (Switzerland), M. REECE (UK) & J. KUEBLER (Switzerland)
- 2163 Thermal expansion study of spinel-sialon  
T. GROSS, M. SCHWARZ, M. KNAPP, E. KROKE & H. FUESS (Germany)
- 2171 High-temperature hot-pressing of titanium carbide–graphite hetero-modulus ceramics  
I.L. SHABALIN, D.M. TOMKINSON (UK) & L.I. SHABALIN (Russia)
- 2183 Densification during hot-pressing of carbon nanotube–metal–magnesium aluminate spinel nanocomposites  
A. PEIGNEY, S. RUL, F. LEFÈVRE-SCHLICK & C. LAURENT (France)
- 2195  $TiO_2$  and  $[TiO_2/\beta-SiC]$  microtubes prepared from an original process  
P. GIBOT & C. VIX-GUTERL (France)
- 2203 Phase instability in  $ZrO_2-TiB_2$  composites  
C. SARBU (Romania), J. VLEUGELS & O. VAN DER BIEST (Belgium)
- 2209 Characterization of rheological properties of colloidal zirconia  
B. JACHIMSKA & Z. ADAMCZYK (Poland)
- 2217 Effect of additives on the pore evolution of zirconia based ceramic foams after sintering  
T. HIGASHIWADA, H. ASAOKA, H. HAYASHI & A. KISHIMOTO (Japan)
- 2223 Preparation of ordered porous  $SnO_2$  films by dip-drawing method with PS colloid crystal templates  
Y. FU, Z. JIN, Z. LIU & W. LI (PR China)
- 2229 Control of particle segregation during drying of ceramic suspension droplets  
Y. ZHANG, L. CHEN, S. YANG & J.R.G. EVANS (UK)

- 2237 Thick-film PTC thermistors and LTCC structures: The dependence of the electrical and microstructural characteristics on the firing temperature  
M. HROVAT, D. BELAVIČ (Slovenia), J. KITA (Poland), J. HOLC, J. CILENŠEK (Slovenia), L. GOLONKA & A. DZIEDZIC (Poland)
- 2245 Self-propagating high-temperature synthesis of barium titanate and subsequent densification by spark plasma sintering (SPS)  
R. LICHERI, S. FADDA, R. ORRÙ, G. CAO & V. BUSAGLIA (Italy)
- 2255 Strontium barium niobate-relating structural developments and dielectric constant  
P.K. PATRO, R. KHATIRKAR, I. SAMAJDAR, A.R. KULKARNI & C.S. HARENDRANATH (India)
- 2265 A study of the mechanochemical synthesis of  $\text{NaNbO}_3$   
T. ROJAC (Slovenia), O. MASSON, R. GUINEBRETIÈRE (France), M. KOSEC, B. MALIČ & J. HOLC (Slovenia)
- 2273 Structure and microwave dielectric property relations in  $(\text{Ba}_{1-x}\text{Sr}_x)_5\text{Nb}_4\text{O}_{15}$  system  
C.-T. LEE, C.-C. OU, Y.-C. LIN, C.-Y. HUANG & C.-Y. SU (Taiwan)
- 2281 Dielectric properties of manganese and cobalt doped lead iron tantalate ceramics  
J. KULAWIK & D. SZWAGIERCZAK (Poland)
- 2287 Synthesis and mechanical behaviour of chlorapatite and chlorapatite/ $\beta$ -TCP composites  
S. KANNAN, A. REBELO, A.F. LEMOS (Portugal), A. BARBA (Spain) & J.M.F. FERREIRA (Portugal)
- 2295 Effect of the green porous texture on porcelain tile properties  
J.L. AMORÓS, M.J. ORTS, J. GARCÍA-TEN, A. GOZALBO & E. SÁNCHEZ (Spain)
- 2303 Elastic behavior of anisotropic terra cotta ceramics determined by kinematic full-field measurements  
V. HUON, B. WATTRISSE, M.S. EL YOUSOUFI & A. CHRYSOCHOOS (France)
- 2311 Synthesis of glass-ceramic glazes in the  $\text{ZnO}-\text{Al}_2\text{O}_3-\text{SiO}_2-\text{ZrO}_2$  system  
B.E. YEKTA, P. ALIZADEH & L. REZAZADEH (Iran)
- 2317 EAFD-loaded vitreous and glass-ceramic materials  
P. KAVOURAS, TH.A. IOANNIDIS, TH. KEHAGIAS, I. TSILIKI, K. CHRISSAFIS, S. KOKKOU, A. ZOUBOULIS & TH. KARAKOSTAS (Greece)
- 2325 Diopside–Ca-Tschermak clinopyroxene based glass-ceramics processed via sintering and crystallization of glass powder compacts  
A. GOEL (Portugal), D.U. TULYAGANOV (Uzbekistan), S. AGATHOPOULOS (Greece), M.J. RIBEIRO (Portugal), R.N. BASU (India) & J.M.F. FERREIRA (Portugal)
- 2333 Extrusion and property characterisation of waste-based ceramic formulations  
F. RAUPP-PEREIRA, M.J. RIBEIRO, A.M. SEGADÃES & J.A. LABRINCHA (Portugal)
- 2341 Porcelain stoneware obtained from the residual muds of serpentinite raw materials  
L.A. DÍAZ & R. TORRECILLAS (Spain)

## Volume 27, Issue 6, 2007

- 2347 Comparison of fracture resistance as measured by the indentation fracture method and fracture toughness determined by the single-edge-precracked beam technique using silicon nitrides with different microstructures  
H. MIYAZAKI, H. HYUGA, K. HIRAO & T. OHJI (Japan)
- 2355 Mesopores in nonstoichiometric oxides via oxyexsolution and Kirkendall effects  
M.-Y. LI, P. SHEN & S.-L. HWANG (Taiwan)
- 2361 Rheology studies on highly filled nano-zirconia suspensions  
C. RENGER, P. KUSCHEL, A. KRISTOFFERSSON, B. CLAUSS, W. OPPERMANN (Germany) & W. SIGMUND (USA)
- 2369 Rutile-type dense ceramics fabricated by pressureless sintering of  $\text{Ti}_{1-x}\text{Ru}_x\text{O}_2$  powders prepared by sol–gel  
M.T. COLOMER & M.J. VELASCO (Spain)
- 2377 Finite element analysis of sintering deformation using densification data instead of a constitutive law  
S. KIANI, J. PAN, J.A. YEOMANS (UK), M. BARRIERE & P. BLANCHART (France)

- 2385  $\text{Al}_2\text{O}_3$ –SiC composites prepared by warm pressing and sintering of an organosilicon polymer-coated alumina powder  
D. GALUSEK (Slovak Republic, Germany), J. SEDLÁČEK (Slovak Republic) & R. RIEDEL (Germany)
- 2393 Prediction of the elastic properties profile in glass-alumina functionally graded materials  
V. CANNILLO, L. LUSVARGHI, C. SILIGARDI & A. SOLA (Italy)
- 2401 Effects of powder stoichiometry on the sintering of  $\beta$ -tricalcium phosphate  
M. DESCAMPS, J.C. HORNEZ & A. LERICHE (France)
- 2407 A technique for measuring stresses in small spatial regions using cube-corner indentation: Application to tempered glass plates  
R. TANDON (USA)
- 2415 Micro- and macro-cellular sintered glass-ceramics from wastes  
E. BERNARDO (Italy)
- 2423 Structural characterization of  $\text{Na}_2\text{O}$ – $\text{CaO}$ – $\text{SiO}_2$  glass ceramics reinforced with electric arc furnace dust  
I. TSILIKI & PH. KOMNINOU (Greece)
- 2433 Chemical corrosion mechanisms of magnesia–chromite and chrome-free refractory bricks by copper metal and anode slag  
V. PETKOV, P.T. JONES, E. BOYDENS, B. BLANPAIN & P. WOLLANTS (Belgium)
- 2445 Phase relationships and transport in Ti-, Ce- and Zr-substituted lanthanum silicate systems  
Y.V. PIVAK, V.V. KHARTON, A.A. YAREMCHENKO, S.O. YAKOVLEV, A.V. KOVALEVSKY, J.R. FRADE & F.M.B. MARQUES (Portugal)
- 2455 Production and properties of substituted  $\text{LaFeO}_3$ -perovskite tubular membranes for partial oxidation of methane to syngas  
D. BAYRAKTAR, F. CLEMENS, S. DIETHELM, T. GRAULE, J. VAN HERLE & P. HOLTAPPELS (Switzerland)
- 2463 Anisotropy on  $\text{SrTiO}_3$  templated textured PMN–PT monolithic ceramics  
E.R.M. ANDREETA, H.F.L. DOS SANTOS, M.R.B. ANDREETA, M.H. LENTE, D. GARCIA, A.C. HERNANDES & J.A. EIRAS (Brazil)
- 2471 Poling of soft piezoceramic PZT  
T.M. KAMEL, F.X.N.M. KOOLS & G. DE WITH (the Netherlands)
- 2481 Dielectric properties of new perovskite ceramics  $(\text{Na}_{1/4}\text{Bi}_{3/4})(\text{Mg}_{1/4}\text{Ti}_{3/4})\text{O}_3$  and  $(\text{K}_{1/4}\text{Bi}_{3/4})(\text{Mg}_{1/4}\text{Ti}_{3/4})\text{O}_3$   
X. WANG & W. CAO (China)
- 2485 Fatigue crack growth law for ferroelectrics under cyclic electrical and combined electromechanical loading  
I. WESTRAM, A. RICOEUR, A. EMRICH, J. RÖDEL & M. KUNA (Germany)
- 2495 Evolution of structure during the oxidation of zirconium diboride–silicon carbide in air up to 1500 °C  
A. REZAIE, W.G. FAHRENHOLTZ & G.E. HILMAS (USA)
- 2503 Atomic force and scanning electron microscopy study of zirconia-coated silicon carbide fibers  
N.I. BAKLANOVA, B.N. ZAITSEV & A.T. TITOV (Russian Federation)
- 2513 Investigation of residual stresses on the boundary of  $\text{SiC}/\text{SiC} + 20\%$   $\text{TiB}_2$  composite materials joining by optic modulation–polarization method  
L.I. BEREZHINSKY, I.L. BEREZHINSKY, O.N. GRIGOREV, B.K. SERDEGA & V.A. UKHIMCHUK (Ukraine)
- 2521 Effect of liquid-phase content on the contact-mechanical properties of liquid-phase-sintered  $\alpha$ -SiC  
O. BORRERO-LÓPEZ, A.L. ORTIZ, F. GUIBERTEAU (Spain) & N.P. PADTURE (USA)
- 2529 Low dielectric constant porous BN/SiCO made by pyrolysis of filled gels  
M. VALENTINOTTI (Italy), S. WALTER (Germany), S. MODENA & G.D. SORARÙ (Italy)
- 2535 Synthesis of  $\beta$ -SiAlON powder by carbothermal reduction–nitridation of zeolites with different compositions  
F.J. LI, T. WAKIHARA, J. TATAMI, K. KOMEYA & T. MEGURO (Japan)
- 2541 Rapid formation of  $\alpha$ -sialon during spark plasma sintering: Its origin and implications  
D. SALAMON, Z. SHEN (Sweden) & P. ŠAJGALÍK (Slovakia)

**Volume 27 Number 7 2007****Review**

- 2549 Review of Ag(Nb, Ta)O<sub>3</sub> as a functional material  
M. VALANT, A.-K. AXELSSON & N. ALFORD (UK)

**Regular Papers**

- 2561 Low temperature sintering of ZnTiO<sub>3</sub>/TiO<sub>2</sub> based dielectric with controlled temperature coefficient  
A. CHAOUCHI (France, Algeria), S. MARINEL (France), M. ALIOUAT (Algeria) & S. D'ASTORG (France)
- 2567 Size effect in low grain size neodymium doped PZT ceramics  
U. HELBIG (Germany)
- 2577 Influence of attrition milling on the electrical properties of undoped-BaTiO<sub>3</sub>  
O.P. THAKUR (UK, India), A. FETEIRA (UK), B. KUNDYS (France) & D.C. SINCLAIR (UK)
- 2591 The orientation mechanism of (Ca,Sr)Bi<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> ceramics prepared by slip casting in high magnetic field and subsequent sintering  
Z. CAO, K. SASSA & S. ASAI (Japan)
- 2597 Fracture test of thin sheet electrolytes for solid oxide fuel cells  
J. MALZBENDER & R.W. STEINBRECH (Germany)
- 2605 Synthesis and reaction kinetics for monodispersive Y<sub>2</sub>O<sub>3</sub>:Tb<sup>3+</sup> spherical phosphor particles  
J.M. SUNG, S.E. LIN & W.C.J. WEI (Taiwan)
- 2613 Constrained sintering of YSZ/Al<sub>2</sub>O<sub>3</sub> composite coatings on metal substrates produced from eletrophoretic deposition  
X.-J. LU & P. XIAO (UK)
- 2623 Influence of thickness on the constrained sintering of alumina films  
O. GUILLON, S. KRAUB & J. RÖDEL (Germany)
- 2629 Synthesis of ultra thin  $\alpha$ -alumina nanobelts from aluminum powder by chemical vapor deposition  
C.Y. TO, L.Y. CHEUNG, Y.F. LI, K.C. CHUNG, D.H.C. ONG & D.H.L. NG (China)
- 2635 Thermal conductivity of alumina inclusion/glass matrix composite materials: local and macroscopic scales  
N. TESSIER-DOYEN, X. GRENIER, M. HUGER, D.S. SMITH, D. FOURNIER & J.P. ROGER (France)
- 2641 Hot pressing of nanocrystalline TiO<sub>2</sub> (anatase) ceramics with controlled microstructure  
A. WEIBEL, R. BOUCHET, R. DENÖYEL & P. KNAUTH (France)
- 2647 Solubility and microstructural development of TiO<sub>2</sub>-containing 3Al<sub>2</sub>O<sub>3</sub>·2SiO<sub>2</sub> and 2Al<sub>2</sub>O<sub>3</sub>·SiO<sub>2</sub> mullites obtained from single-phase gels  
E. RUIZ DE SOLA, F.J. SERRANO, E. DELGADO-PINAR, M.M. REVENTÓS, A.I. PARDO (Spain), M.A. KOJDECKI (Poland), J.M. AMIGÓ & J. ALARCÓN (Spain)
- 2655 Low-temperature Ti-containing 3:2 and 2:1 mullite nanocrystals from single-phase gels  
E. RUIZ DE SOLA, F. ESTEVAN & J. ALARCÓN (Spain)
- 2665 Preparation and characterization of Ag-magadiite nanocomposites  
K. OZAWA, F. ISO, Y. NAKAO (Japan), Z. CHENG (Australia), H. FUJII, M. HASE & H. YAMAGUCHI (Japan)
- 2671 Aqueous tape casting process for hydroxyapatite  
T. TIAN, D. JIANG, J. ZHANG & Q. LIN (China)
- 2679 Toughening of bio-ceramics scaffolds by polymer coating  
M. PEROGLIO, L. GREMILLARD, J. CHEVALIER, L. CHAZEAU, C. GAUTHIER & T. HAMAIDE (France)
- 2687 A new processing aid for dry-pressing: A copolymer acting as dispersant and binder  
M.R.B. ROMDHANE (Tunisia), T. CHARTIER (France), S. BAKLOUTI, J. BOUAZIZ (Tunisie), C. PAGNOUX & J.-F. BAUMARD (France)
- 2697 Fe speciation in geopolymers with Si/Al molar ratio of ~2  
D.S. PERERA, J.D. CASHION, M.G. BLACKFORD, Z. ZHANG & E.R. VANCE (Australia)
- 2705 High temperature water vapour corrosion of rare earth disilicates (Y,Yb,Lu)<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> in the presence of Al(OH)<sub>3</sub> impurities  
N. MAIER, K.G. NICKEL & G. RIXECKER (Germany)

- 2715 Physical and structural properties of glasses in the  $\text{TeO}_2\text{--TiO}_2\text{--Nb}_2\text{O}_5$  system  
M.A. VILLEGRAS & J.M.F. NAVARRO (Spain)
- 2725 Densification of SiC by SPS-effects of time, temperature and pressure  
F. GUILLARD, A. ALLEMAND, J.-D. LULEWICZ & J. GALY (France)
- 2729 Fabrication and properties of reactively hot pressed  $\text{ZrB}_2\text{--SiC}$  ceramics  
J.W. ZIMMERMANN, G.E. HILMAS, W.G. FAHRENHOLTZ (USA), F. MONTEVERDE & A. BELLOSI (Italy)
- 2737 Deposition and characterization of hex-BN coating on carbon fibres using tris(dimethylamino)borane precursor  
C. LORRETTE, P. WEISBECKER, S. JACQUES, R. PAILLER & J.M. GOYHÉNÈCHE (France)

**Volume 27 Numbers 8–9 2007****Papers Presented at the Fourth International Conference on Microwave Materials and their Applications**

- 2745 Editorial  
M.T. SEBASTIAN, A. UUSIMÄKI & H. JANTUNEN (Finland)
- 2747 Improvement of dielectric loss of  $(\text{Ba},\text{Sr})(\text{Ti},\text{Zr})\text{O}_3$  ferroelectrics for tunable devices  
J.-Y. HA, J.-W. CHOI, C.-Y. KANG, J.-S. KIM, S.-J. YOON, D.J. CHOI & H.-J. KIM (South Korea)
- 2753 FDTD analysis of rectangular dielectric resonator antenna  
P. MOHANAN, S. MRIDULA, BINUPAUL, M.N. SUMA, P.V. BIJUMON & M.T. SEBASTIAN (India)
- 2759 Characterization techniques for thin and thick ferroelectric films  
A. DELENIV (Sweden)
- 2765 The losses of microwave ferrites at communication frequencies  
C.P. YANG, P.A. SMITH (UK), J. KRUPKA (Poland) & T.W. BUTTON (UK)
- 2771 The electromagnetic properties of Cu-substituted garnets with low sintering temperature  
J.-P. GANNE, R. LEBOURGEOIS, M. PATÉ, D. DUBREUIL, L. PINIER & H. PASCARD (France)
- 2779 Characteristics of thick film resistors embedded in low temperature co-fired ceramic (LTCC) substrates  
C.-S. HSI, F.-M. HSIEH & H.-P. CHEN (Taiwan)
- 2785 LTCC system with new high- $\epsilon_r$  and high-Q material co-fired with conventional low- $\epsilon_r$  base material for wireless communications  
Y. HIGUCHI, Y. SUGIMOTO, J. HARADA & H. TAMURA (Japan)
- 2789 Aerosol deposition for post-LTCC  
Y. IMANAKA, N. HAYASHI, M. TAKENOUCHI & J. AKEDO (Japan)
- 2797 Signature of lattice defects in far infrared reflectivity of  $\text{Ba}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$   
T. SHIMADA, K. TOUJI (Japan), H.-L. LIU, Y.-T. TZENG, C.-T. CHIA (Taiwan) & T. KOLODIAZHNYYI (Japan)
- 2803 Raman-spectroscopic investigations on the crystal structure and phonon modes of  $\text{Ba}(\text{RE}_{1/2}\text{Ta}_{1/2})\text{O}_3$  microwave ceramics  
R.L. MOREIRA (Brazil), L.A. KHALAM, M.T. SEBASTIAN (India) & A. DIAS (Brazil)
- 2811 Ceramics to 100 GHz: Including a novel free space dielectric measurement technique  
C. FREE & M. HENRY (UK)
- 2817 Structure and microwave dielectric properties of  $\text{Ba}_{1+x}[(\text{Co}_{0.7}\text{Zn}_{0.3})_{1/3}\text{Nb}_{2/3}]\text{O}_3$  ( $-0.015 \leq x \leq 0.015$ )  
J.J. BIAN, G.X. SONG & K. YAN (China)
- 2823 Measurements of the surface resistance and conductivity of thin conductive films at frequency about 1 GHz employing dielectric resonator technique  
J. KRUPKA, K. DERZAKOWSKI, T. ZYCHOWICZ (Poland), B.L. GIVOT, W.C. EGBERT & M.M. DAVID (USA)
- 2827 Effect of dopants on microwave dielectric properties of  $\text{Ba}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$  ceramics  
M.R. VARMA & M.T. SEBASTIAN (India)
- 2835 Low sintering  $\text{BaNd}_2\text{Ti}_4\text{O}_{12}$  microwave ceramics prepared by CuO thin layer coated powder  
M.-C. WU, M.-K. HSIEH, C.-W. YEN, Y.-C. HUANG, W.-T. HUANG & W.-F. SU (Taiwan)

- 2841 Broadband DR antenna made of high-Q ceramic  
Y.-C. HUANG, M.-C. WU, T.-H. CHANG, J.-F. KIANG & W.-F. SU (Taiwan)
- 2845 Tunability and microwave dielectric properties of BaO–SrO–Nd<sub>2</sub>O<sub>3</sub>–TiO<sub>2</sub> ceramics  
E.A. NENASHEVA, N.F. KARTENKO, O.N. TRUBITSINA, V.F. MATVEICHUK, S.N. SIBIRTSEV & I.M. GAIDAMAKA (Russia)
- 2849 Microstructure and dielectric properties of amorphous BaSm<sub>2</sub>Ti<sub>4</sub>O<sub>12</sub> thin films for MIM capacitor  
Y.H. JEONG, J.B. LIM, J.C. KIM, S. NAHM, H.-J. SUN & H.J. LEE (Republic of Korea)
- 2855 Effect of Al<sub>2</sub>O<sub>3</sub> on the structure and microwave dielectric properties of Ca<sub>0.7</sub>Ti<sub>0.7</sub>La<sub>0.3</sub>Al<sub>0.3</sub>O<sub>3</sub>  
G.A. RAVI, F. AZOUGH & R. FREER (UK)
- 2861 Crystal structure and microwave dielectric properties of SrTiO<sub>3</sub> doped LaALO<sub>3</sub> single crystal grown by FZ  
Y. INAGAKI, S. SUZUKI, I. KAGOMIYA, K. KAKIMOTO, H. OHSATO, K. SASAKI, K. KURODA & T. SHIMADA (Japan)
- 2865 Microwave dielectric properties of Re<sub>3</sub>Ga<sub>5</sub>O<sub>12</sub> (Re: Nd, Sm, Eu, Dy and Yb) ceramics and effect of TiO<sub>2</sub> on the microwave dielectric properties of Sm<sub>3</sub>Ga<sub>5</sub>O<sub>12</sub> ceramics  
J.C. KIM, M.-H. KIM, S. NAHM, J.-H. PAIK, J.-H. KIM & H.-J. LEE (Republic of Korea)
- 2871 Metal–insulator–metal capacitors using Ba<sub>2</sub>Ti<sub>9</sub>O<sub>20</sub> dielectric thin film  
J.-B. LIM, Y.H. JEONG, S. NAHM, J.-H. PAIK, H.-J. SUN & H.-J. LEE (Republic of Korea)
- 2875 Low temperature sintering of the Ba<sub>2</sub>Ti<sub>9</sub>O<sub>20</sub> ceramics using B<sub>2</sub>O<sub>3</sub>/CuO and BaCu(B<sub>2</sub>O<sub>5</sub>) additives  
J.-B. LIM, Y.H. JEONG, N.-H. NGUYEN, S. NAHM, J.-H. PAIK, J.-H. KIM & H.-J. LEE (Republic of Korea)
- 2881 Embedded air cavity backed microstrip antenna on an LTCC substrate  
M. KOMULAINEN, J. MÄHÖNEN, T. TICK, M. BERG, H. JANTUNEN (Finland), M. HENRY, C. FREE (UK) & E. SALONEN (Finland)
- 2887 Microwave dielectric properties of Bi-substituted La(Mg<sub>1/2</sub>Ti<sub>1/2</sub>)O<sub>3</sub>  
A.N. SALAK & V.M. FERREIRA (Portugal)
- 2893 Correlation of the phonon characteristics and microwave dielectric properties of the Ba(Mg<sub>1/3</sub>Ta<sub>2/3</sub>)O<sub>3</sub> materials  
H.-F. CHENG, C.-T. CHIA, H.-L. LIU, M.-Y. CHEN, Y.-T. TZENG & I.-N. LIN (Taiwan)
- 2899 Ferroelectric properties of compressively strained epitaxial SrTiO<sub>3</sub> films on sapphire  
R. WÖRDENWEBER, E. HOLLMANN, M. ALI, J. SCHUBERT, G. PICKARTZ & T.K. LEE (Germany)
- 2903 Measurements of anisotropic complex permittivity of liquid crystals at microwave frequencies  
J. PARKA, J. KRUPKA, R. DĄBROWSKI (Poland) & J. WOSIK (USA)
- 2907 Frequency dependence of dielectric properties of metalldielectric SrTiO<sub>3</sub>–Pt composites  
W.W. CHO, I. KAGOMIYA, K.-I. KAKIMOTO & O. HITOSHI (Japan)
- 2911 Origins of high Q on microwave tungstenbronze-type like Ba<sub>6-3x</sub>R<sub>8+2x</sub>Ti<sub>18</sub>O<sub>54</sub> (R: rare earth) dielectrics based on the atomic arrangements  
H. OHSATO (Japan)
- 2917 Reflection intensity measurement using non-contact microwave probe and *in-plane* mappings for dielectric device  
H. KAKEMOTO, J. LI, T. HARIGAI, S.-M. NAM, S. WADA & T. TSURUMI (Japan)
- 2923 RF properties of BST–PPS composites  
T. HU, J. JUUTI & H. JANTUNEN (Finland)
- 2927 Effects of Ta-substitution on the dielectric properties of Ba<sub>6</sub>Ti<sub>2</sub>(Nb<sub>1-x</sub>Ta<sub>x</sub>)<sub>8</sub>O<sub>30</sub> thin films  
C.M. CHO, J.-R. KIM, J.H. NOH & K.S. HONG (Republic of Korea)
- 2933 The effect of non-stoichiometry on the microstructure and microwave dielectric properties of the columbites A<sup>2+</sup>Nb<sub>2</sub>O<sub>6</sub>  
A. BELOUS, O. OVCHAR (Ukraine), B. JANCAR & J. BEZJAK (Slovenia)
- 2937 Microwave dielectric properties of nanocrystalline TiO<sub>2</sub> prepared using spark plasma sintering  
J.H. NOH (Republic of Korea), H.S. JUNG, J.-K. LEE (USA), J.-R. KIM & K.S. HONG (Republic of Korea)
- 2941 Multilayer thick-film technology as applied to design of microwave devices  
P.V. KAPITANOVA (Russia), A.V. SIMINE (The Netherlands), D.V. KHOLODNYAK & I.B. VENDIK (Russia)

- 2945 Processing and dielectric characterization of  $\text{Ba}_{0.3}\text{Sr}_{0.7}\text{TiO}_3$  thin films on alumina substrates  
B. MALIC, I. BOERASU, M. MANDELJC, M. KOSEC (Slovenia), V. SHERMAN, T. YAMADA, N. SETTER (Switzerland) & M. VUKADINOVIC (Slovenia)
- 2949 Electromechanical coupling coefficient of isotropic sample with a marked electrostriction  
O. VENDIK & I. VENDIK (Russia)
- 2953 Printable resistors in LTCC systems  
M. LAHTI, A. VIMPARI & K. KAUTIO (Finland)
- 2957 The correlation between the structure and the dielectric properties of  $\text{K}_x\text{Ba}_{1-x}\text{Ga}_{2-x}\text{Ge}_{2+x}\text{O}_8$  ceramics  
M. MACEK KRZMANC, A. MEDEN & D. SUVOROV (Slovenia)
- 2963 Microwave composite dielectrics based on magnesium titanates  
A. BELOUS, O. OVCHAR, D. DURYLIN (Ukraine), M. VALANT (UK), M. MACEK-KRZMANC & D. SUVOROV (Slovenia)
- 2967 Dielectric and thermal properties of AlN ceramics  
S. KUME, M. YASUOKA, S.-K. LEE, A. KAN, H. OGAWA & K. WATARI (Japan)
- 2973 Structure determination and microwave dielectric properties of  $\text{La}(\text{MgSn})_{0.5}\text{O}_3$  ceramics  
G. SANTOSH BABU, V. SUBRAMANIAN & V.R.K. MURTHY (India)
- 2977 Crystal structural refinement of corundum-structured  $A_4\text{M}_2\text{O}_9$  ( $A = \text{Co}$  and  $\text{Mg}$ ,  $M = \text{Nb}$  and  $\text{Ta}$ ) microwave dielectric ceramics by high-temperature X-ray powder diffraction  
A. KAN, H. OGAWA, A. YOKOI & Y. NAKAMURA (Japan)
- 2983 Electrode metallization for high permittivity oxide RF thin film capacitors  
T. RIEKKINEN, J. MOLARIUS & M. YLILAMMI (Finland)
- 2989 Relationship between crystal structure and microwave dielectric properties of melilite-type ceramic  
A. YOKOI, H. OGAWA, A. KAN & Y. NAKAMURA (Japan)
- 2995 Extended X-ray absorption fine structure, X-ray diffraction and Raman analysis of nickel-doped  $\text{Ba}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$   
M.Y. CHEN, P.J. CHANG, C.T. CHIA, Y.C. LEE, I.N. LIN, L.-J. LIN, J.F. LEE, H.Y. LEE (Taiwan) & T. SHIMADA (Japan)
- 3001 A compact hybrid CPW fed planar monopole/dielectric resonator antenna  
M.N. SUMA, P.V. BIJUMON, M.T. SEBASTIAN & P. MOHANAN (India)
- 3005 Effects of structural characteristics on microwave dielectric properties of  $(1 - x)\text{Ca}_{0.85}\text{Nd}_{0.1}\text{TiO}_3 - x\text{LnAlO}_3$  ( $\text{Ln} = \text{Sm, Er and Dy}$ ) ceramics  
E.S. KIM, B.S. CHUN & D.H. KANG (Republic of Korea)
- 3011 Upper limit of  $x$  in  $\text{Ba}_{6-3x}\text{Nd}_{8+2x}\text{Ti}_{18}\text{O}_{54}$  new tungsten bronze solid solution  
L. ZHANG, X.M. CHEN, N. QIN & X.Q. LIU (China)
- 3017 Silver cofirability differences between  $\text{Bi}_{1.5}\text{Zn}_{0.92}\text{Nb}_{1.5}\text{O}_{6.92}$  and  $\text{Zn}_3\text{Nb}_2\text{O}_8$   
M.-C. WU, Y.-C. HUANG & W.-F. SU (Taiwan)
- 3023 Exciting traveling waves in high  $Q$  structures using microstrip  
A.C. FOWLER, M.E. TOBAR, C.R. LOCKE, E.N. IVANOV, J.G. HARTNETT, J.D. ANSTIE (Australia) & D. CROS (France)
- 3027 Effect of dopants on synthesis of  $\text{BaTi}_4\text{O}_9$  and  $\text{Ba}_2\text{Ti}_9\text{O}_{20}$  ceramics prepared by reaction-sintering process  
Y.-C. LIOU, K.-H. TSENG & T.-C. CHUNG (Taiwan)
- 3033 Low temperature sintering of  $\text{BaCu}(\text{B}_2\text{O}_5)$ -added  $\text{BaO}-\text{Re}_2\text{O}_3-\text{TiO}_2$  ( $\text{Re} = \text{Sm, Nd}$ ) ceramics  
M.-H. KIM, J.-B. LIM, S. NAHM, J.-H. PAIK & H.-J. LEE (Republic of Korea)
- 3039 PTFE/ $\text{Sr}_2\text{Ce}_2\text{Ti}_5\text{O}_{16}$  polymer ceramic composites for electronic packaging applications  
G. SUBODH, C. PAVITHRAN, P. MOHANAN & M.T. SEBASTIAN (India)
- 3045 Effect of Ni substitution on the microwave dielectric properties of cordierite  
M. TERADA, K. KAWAMURA, I. KAGOMIYA, K.-I. KAKIMOTO & H. OHSATO (Japan)
- 3049 Soft-chemical reaction of layered perovskite  $\text{Na}_2\text{Nd}_2\text{Ti}_3\text{O}_{10}$  and its microwave dielectric properties  
Y. YAMADA, K. WADA, I. KAGOMIYA, K. KAKIMOTO & H. OHSATO (Japan)

- 3053 Microwave dielectric properties and low-temperature sintering of  $\text{Ba}_3\text{Ti}_4\text{Nb}_4\text{O}_{21}$  ceramics with  $\text{B}_2\text{O}_3$  and  $\text{CuO}$  additions  
D.K. YIM, J.-R. KIM, D.-W. KIM & K.S. HONG (Republic of Korea)
- 3059 Microwave dielectric properties of tungstenbronze type like  $(\text{Ba}_{1-\alpha}\text{Sr}_\alpha)_{6-3x}\text{R}_{8+2x}\text{Ti}_{18}\text{O}_{54}$  ( $\text{R} = \text{Sm}, \text{Nd}$ ) solid solutions  
I. KAGOMIYA, M. SUZUKI, K.-I. KAKIMOTO & H. OHSATO (Japan)
- 3063 Microwave dielectric properties of scheelite ( $\text{A} = \text{Ca}, \text{Sr}, \text{Ba}$ ) and wolframite ( $\text{A} = \text{Mg}, \text{Zn}, \text{Mn}$ )  $\text{AMoO}_4$  compounds  
G.-K. CHOI, J.-R. KIM, S.H. YOON & K.S. HONG (Republic of Korea)
- 3069 Milling effect on the microwave properties of  $\text{Ba}_2\text{Ti}_9\text{O}_{20}$  investigated by EMP technique  
Y.-C. CHEN, T.-H. HONG, H.-F. CHENG, C.-B. CHANG, K.-C. LEOU & I.-N. LIN (Taiwan)
- 3075 Low temperature sintering and microwave dielectric properties of  $\text{Ba}_3\text{Ti}_5\text{Nb}_6\text{O}_{28}$  with  $\text{ZnO}-\text{B}_2\text{O}_3$  glass additions for LTCC applications  
J.-R. KIM, D.-W. KIM, I.-S. CHO, B.S. KIM, J.-S. AN & K.S. HONG (Republic of Korea)
- 3081 Microwave dielectric properties and Far-infrared spectroscopic analysis of  $\text{Ba}_{5+n}\text{Ti}_n\text{Nb}_4\text{O}_{15+3n}$  ( $0.3 < n < 1.2$ ) ceramics  
I.-S. CHO, J.-R. KIM, D.W. KIM, D.-W. KIM & K.S. HONG (Republic of Korea)
- 3087 Mixture behavior and microwave dielectric properties of  $(1 - x)\text{CaWO}_4-x\text{TiO}_2$   
S.H. YOON, G.-K. CHOI, D.-W. KIM, S.-Y. CHO & K.S. HONG (Republic of Korea)
- 3093 Dielectric properties of  $\text{SrTiO}_3/\text{POE}$  flexible composites for microwave applications  
F. XIANG, H. WANG & X. YAO (China)
- 3099 Microwave dielectric properties of  $\text{Mg}_3(\text{VO}_4)_2-x\text{Ba}_3(\text{VO}_4)_2$  ceramics for LTCC with near zero temperature coefficient of resonant frequency  
H. OGAWA, A. YOKOI, R. UMEMURA & A. KAN (Japan)
- 3105 Microwave dielectric properties of porous  $\text{Mg}_2\text{SiO}_4$  filling with  $\text{TiO}_2$  prepared by a liquid phase deposition process  
J. SUGIHARA, K.-I. KAKIMOTO, I. KAGOMIYA & H. OHSATO (Japan)
- 3109 Layered ceramic structure based on the electrocaloric elements working as a solid state cooling line  
S.F. KARMANENKO, O.V. PAKHOMOV, A.M. PRUDAN, A.S. STARKOV & A. ESKOV (Russia)

## I Keyword List

## II Notes for Authors

**Volume 27 Number 10 2007**

- 3113 A sedimentation process for the fabrication of solid oxide fuel cell cathodes with graded composition  
J. SIMONET, G. KAPELSKI & D. BOUVARD (France)
- 3117 Drying stress of yttria-stabilized-zirconia slurry on a metal substrate  
W. LAN & P. XIAO (UK)
- 3127 Uniaxial viscosity of gadolinium-doped ceria determined by discontinuous sinter forging  
J. CHANG (Republic of Korea), O. GUILLOU, J. RÖDEL (Germany) & S.-J.L. KANG (Republic of Korea)
- 3135 Static fatigue behavior of cracked piezoelectric ceramics in three-point bending under electric fields  
Y. SHINDO, F. NARITA & F. SAITO (Japan)
- 3141 Barium modified lead lanthanum strontium zirconium niobium titanate for dielectric and piezoelectric properties  
K. RAMAM & M. LOPEZ (Chile)
- 3149 Nanoscaled  $\text{BaTiO}_3$  powders with a large surface area synthesized by precipitation from aqueous solutions: Preparation, characterization and sintering  
W. LU, M. QUILITZ & H. SCHMIDT (Germany)
- 3161 Characteristics of  $\text{ZnO}$ -based varistor ceramics doped with  $\text{Al}_2\text{O}_3$   
S. BERNIK & N. DANEU (Slovenia)

- 3171 Crystallization kinetics and magnetic properties of iron oxide contained  $25\text{Li}_2\text{O}-8\text{MnO}_2-20\text{CaO}-2\text{P}_2\text{O}_5-45\text{SiO}_2$  glasses  
C.-S. HSI, H.-Z. CHENG, H.-J. HSU, Y.-S. CHEN & M.-C. WANG (Taiwan)
- 3177 Granule performance of zirconia/alumina composite powders spray-dried using polyvinyl pyrrolidone binder  
D.-J. KIM & J.-Y. JUNG (South Korea)
- 3183 Kinematics of a single abrasive particle during the industrial polishing process of porcelain stoneware tiles  
F.J.P. SOUSA (Brazil), J.C. AURICH (Germany), W.L. WEINGAERTNER & O.E. ALARCON (Brazil)
- 3191 Microstructure evaluation of  $\text{Al}_2\text{O}_3$  ceramics with Mg-PSZ- and  $\text{TiO}_2$ -additions  
C.G. ANEZIRIS, W. SCHÄRFL & B. ULLRICH (Germany)
- 3201 Molten salt synthesis of  $\text{LaAlO}_3$  powder at low temperatures  
Z. LI, S. ZHANG & W.E. LEE (UK)
- 3207 Microstructural dependence of the thermal and mechanical properties of monazite  $\text{LnPO}_4$  ( $\text{Ln} = \text{La to Gd}$ )  
L. PERRIÈRE, D. BREGIROUX, B. NAITALI, F. AUDUBERT, E. CHAMPION, D.S. SMITH & D. BERNACHE-ASSOLLANT (France)
- 3215 Reaction sintering of  $\beta$ -tricalcium phosphates and their mechanical properties  
K. YOSHIDA, M. KOBAYASHI, H. HYUGA, N. KONDO, H. KITA, K. HASHIMOTO & Y. TODA (Japan)
- 3221 Study of light scattering on a soda lime glass eroded by sandblasting  
N. ADJOUADI, N. LAOUAR, C. BOUSBA, N. BOUAOUADJA (Algeria) & G. FANTOZZI (France)
- 3231 Crystallization behaviour, structure and properties of sintered glasses in the diopside– Ca-Tschermak system  
A. GOEL (Portugal), D.U. TULYAGANOV (Portugal, Uzbekistan), S. AGATHOPOULOS, M.J. RIBEIRO & J.M.F. FERREIRA (Portugal)
- 3239 Microstructural characterization and crystallization kinetics of  $(1-x)\text{TeO}_2-x\text{K}_2\text{O}$  ( $x = 0.05, 0.10, 0.15, 0.20$  mol) glasses  
B. ÖZ, M.L. ÖVEÇOĞLU, I. KABALCI & G. ÖZEN (Turkey)
- 3253 Room temperature viscosity and delayed elasticity in infrared glass fiber  
C. BERNARD, G. DELAIZIR, J.-C. SANGLEBOEUF, V. KERYVIN (France), P. LUCAS (USA), B. BUREAU, X.-H. ZHANG & T. ROUXEL (France)
- 3261 Strength recovery behavior of machined  $\text{Al}_2\text{O}_3/\text{SiC}$  nano-composite ceramics by crack-healing  
T. OSADA, W. NAKAO, K. TAKAHASHI, K. ANDO & S. SAITO (Japan)
- 3269 Development of  $\text{ZrO}_2$ –WC composites by pulsed electric current sintering  
S.G. HUANG, K. VANMEENSEL, O. VAN DER BIEST & J. VLEUGELS (Belgium)
- 3277 Liquid metal/ceramic interactions in the (Cu, Ag, Au)/ $\text{ZrB}_2$  systems  
A. PASSERONE, M.L. MUOLO, R. NOVAKOVIC (Italy) & D. PASSERONE (Switzerland)
- 3287 Polysilazane-derived antibacterial silver–ceramic nanocomposites  
V. BAKUMOV, K. GUEINZIUS, C. HERMANN, M. SCHWARZ & E. KROKE (Germany)

**Volume 27 Number 11 2007****Papers Presented at the First International Workshop on Mechanical Properties of Advanced Materials: Recent Insights. Dedicated to Professor Arturo Dominguez-Rodriguez on the occasion of his 60th birthday**

- 3293 Preface  
D. GÓMEZ-GARCÍA, A. MUÑOZ-BERNABÉ, Á. GALLARDO-LÓPEZ & F. GUTIÉRREZ-MORA (Spain)
- 3295 Anomalous high activation energy for creep in nanostructured 3YTZP/Ni cermets  
A. MORALES-RODRÍGUEZ, D. GÓMEZ-GARCÍA, T. RODRIGUEZ-SUAREZ, S. LOPEZ-ESTEBAN, C. PECHARROMAN, J.S. MOYA & A. DOMÍNGUEZ-RODRÍGUEZ (Spain)
- 3301 Strength enhancement of 2D-SiC/SiC composites after static fatigue at room temperature  
A. MORALES-RODRÍGUEZ (Spain), M. MOEVUS, P. REYNAUD & G. FANTOZZI (France)
- 3307 A general law for liquid metal-onto-ceramic wetting: An electrostatic approach  
D. GÓMEZ-GARCÍA, F. GUTIÉRREZ-MORA, Á. GALLARDO-LÓPEZ & A. DOMÍNGUEZ-RODRÍGUEZ (Spain)

- 3311 Nanoindentation on hybrid organic/inorganic silica aerogels  
N. DE LA ROSA-FOX, V. MORALES-FLÓREZ, J.A. TOLEDO-FERNÁNDEZ, M. PIÑERO, R. MENDOZA-SERNA & L. ESQUIVIAS (Spain)
- 3317 Chromium hardening and Peierls mechanism for basal slip in sapphire ( $\alpha$ -Al<sub>2</sub>O<sub>3</sub>) at temperatures between 900 and 1500 °C  
M.C. RODRÍGUEZ, A. MUÑOZ (Spain), J. CASTAING, P. VEYSSIÈRE (France) & A.D. RODRÍGUEZ (Spain)
- 3325 High temperature creep behaviour of 4 mol% yttria tetragonal zirconia polycrystals (4-YTZP) with grain sizes between 0.38 and 1.15  $\mu$ m  
E. ZAPATA-SOLVAS, D. GÓMEZ-GARCÍA, C. GARCÍA-GAÑÁN & A. DOMÍNGUEZ-RODRÍGUEZ (Spain)
- 3331 Transparent yttrium aluminum garnet (YAG) ceramics by spark plasma sintering  
R. CHAIM, M. KALINA (Israel) & J.Z. SHEN (Sweden)
- 3339 Mechanical properties of alumina-rich magnesium aluminate spinel/tungsten composites  
T. RODRIGUEZ-SUAREZ, S. LOPEZ-ESTEBAN, J.F. BARTOLOMÉ & J.S. MOYA (Spain)
- 3345 Temperature dependence of mechanical properties of alumina up to the onset of creep  
E. SÁNCHEZ-GONZÁLEZ, P. MIRANDA, J.J. MELÉNDEZ-MARTÍNEZ, F. GUIBERTEAU & A. PAJARES (Spain)
- 3351 Microstructural design of sliding-wear-resistant liquid-phase-sintered SiC: An overview  
O. BORRERO-LÓPEZ, A.L. ORTIZ, F. GUIBERTEAU (Spain) & N.P. PADTURE (USA)
- 3359 Hardness degradation in liquid-phase-sintered SiC with prolonged sintering  
O. BORRERO-LÓPEZ, A. PAJARES, A.L. ORTIZ & F. GUIBERTEAU (Spain)
- 3365 Pore channel closure in sintering of a ring of three spheres  
F. WAKAI (Japan), D. GÓMEZ-GARCIA & A. DOMÍNGUEZ-RODRÍGUEZ (Spain)
- 3371 Deformation behavior and joining of a MgF<sub>2</sub> optical ceramic  
C. LORENZO-MARTIN, D. SINGH, J. JOHNSON & J.L. ROUTBORT (USA)
- 3377 High-temperature deformation behavior in SrTiO<sub>3</sub> ceramics  
D. SINGH, M. LORENZO-MARTÍN, G. CHEN (USA), F. GUTIÉRREZ-MORA (Spain) & J.L. ROUTBORT (USA)
- 3385 Symbiosis between grain boundary sliding and slip creep to obtain high-strain-rate superplasticity in aluminum alloys  
J.A. DEL VALLE, M.T. PÉREZ-PRADO & O.A. RUANO (Spain)
- 3391 Low elastic modulus metals for joint prosthesis: Tantalum and nickel–titanium foams  
M. ARCINIEGAS, C. APARICIO, J.M. MANERO & F.J. GIL (Spain)

## I Keyword List

## III Notes for Authors

**Volume 27 Number 12 2007**

- 3399 A quantitative evaluation method for particle orientation structure in alumina powder compacts  
A. MAKIYA, S. TANAKA, D. SHOJI, T. ISHIKAWA, N. UCHIDA & K. UEMATSU (Japan)
- 3407 Molten salt synthesis of zinc aluminate powder  
Z. LI, S. ZHANG & W.E. LEE (UK)
- 3413 Preparation by solar physical vapor deposition (SPVD) and nanostructural study of pure and Bi doped ZnO nanopowders  
T. AIT AHcene (France, Algeria), C. MONTY, J. KOUAM, A. THOREL, G. PETOT-ERVAS (France) & A. DJEMEL (Algeria)
- 3425 Effect of interface roughness and coating thickness on interfacial shear mechanical properties of EB-PVD yttria-partially stabilized zirconia thermal barrier coating systems  
S. GUO, Y. TANAKA & Y. KAGAWA (Japan)
- 3433 Processing of biomorphic porous TiO<sub>2</sub> ceramics by chemical vapor infiltration and reaction (CVI-R) technique  
H. GHANEM, M. KORMANN, H. GERHARD & N. POPOVSKA (Germany)

- 3439 Characterisation of the  $R-T$  response of  $\text{BaTiO}_3$  thermistors on three different length scales  
L. AFFLECK, J. SEATON & C. LEACH (UK)
- 3445 Microwave dielectric properties of  $\text{CeO}_2-0.5\text{AO}-0.5\text{TiO}_2$  ( $\text{A} = \text{Ca, Mg, Zn, Mn, Co, Ni, W}$ ) ceramics  
P.S. ANJANA, M.T. SEBASTIAN (India), A.-K. AXELSSON & N.M. ALFORD (UK)
- 3453 Microstructure and piezoelectric properties of textured  $(\text{Na}_{0.84}\text{K}_{0.16})_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  lead-free ceramics  
F. GAO, C.-S. ZHANG, X.-C. LIU, L.-H. CHENG & C.-S. TIAN (PR China)
- 3459 Surface ionics: A brief review  
V.V. BELOUSOV (Russia)
- 3469 Synthesis of  $\text{La}_{0.9}\text{Sr}_{0.1}\text{Ga}_{0.8}\text{Mg}_{0.2}\text{O}_{2.85}$  by successive freeze-drying and self-ignition of a hydroxypropylmethyl cellulose solution  
K. TRAINA (Belgium), M.C. STEIL (France), J.P. PIRARD, C. HENRIST, A. RULMONT, R. CLOOTS & B. VERTRUYEN (Belgium)
- 3475 Stabilized tialite–mullite composites with low thermal expansion and high strength for catalytic converters  
P. OIKONOMOU, CH. DEDELOUDIS, C.J. STOURNARAS & CH. FTIKOS (Greece)
- 3483 Effect of rice husk ash (RHA) in the synthesis of  $(\text{Pr},\text{Zr})\text{SiO}_4$  ceramic pigment  
F. BONDIOLI, F. ANDREOLA, L. BARBIERI, T. MANFREDINI & A.M. FERRARI (Italy)
- 3489 Evolution of elastic properties and microstructural changes versus temperature in bonding phases of alumina and alumina–magnesia refractory castables  
J.-M. AUVRAY, C. GAULT & M. HUGER (France)
- 3497 Using confocal scanning laser microscopy for the in situ study of high-temperature behaviour of complex ceramic materials  
P.T. JONES, D. DESMET, M. GUO, D. DURINCK, F. VERHAEGHE, J. VAN DYCK, J. LIU, B. BLANPAIN & P. WOL-LANTS (Belgium)
- 3509 Recycling of polishing porcelain stoneware residues in ceramic tiles  
E. RAMBALDI, L. ESPOSITO, A. TUCCI & G. TIMELLINI (Italy)
- 3517 Microstructure characterization of polyamide fibre/latex-filled plaster composites  
S. EVE, M. GOMINA, J.-P. JERNOT, J.-C. OZOUF & G. ORANGE (France)
- 3527 Synthetic resin-bonded transition-metal carbide–carbon hetero-modulus ceramics  
I.L. SHABALIN & D.L. ROACH (UK)
- 3539 Microstructure and mechanical strength of transient liquid phase bonded  $\text{Ti}_3\text{SiC}_2$  joints using Al interlayer  
X.H. YIN, M.S. LI & Y.C. ZHOU (China)
- 3545 Surface characterisation and modification of submicron and nanosized silicon carbide powders  
S. NOVAK, J. KOVAC, G. DRAZIC (Slovenia), J.M.F. FERREIRA & S. QUARESMA (Portugal)
- 3551 Young's modulus, thermal expansion coefficient and fracture behavior of selected Si–B–C based carbides in the 20–1200 °C temperature range as derived from the behavior of carbon fiber reinforced microcomposites  
A. MICHAUX, C. SAUDER, G. CAMUS & R. PAILLER (France)
- 3561 Short-fibre-reinforced reaction-bonded silicon nitride (RBSN) by precursor route: Processing and properties  
A. HERZOG (Switzerland), G. WOETTING (Germany) & U.F. VOGT (Switzerland)
- 3573 Corrosion of  $\text{Si}_3\text{N}_4$ -ceramics in aqueous solutions. Part 2. Corrosion mechanisms in acids as a function of concentration, temperature and composition  
J. SCHILM, M. HERRMANN & G. MICHAEL (Germany)

**Volume 27 Numbers 13–15 2007****Refereed Reports ELECTROCERAMICS X 2006**

- 3589 Preface  
J.F. FERNANDEZ & M. VILLEGRAS (Spain)

**Ceramic Processing of Electroceramics**

- 3591 Morphology and crystallinity of KNbO<sub>3</sub>-based nano powder fabricated by sol-gel process  
K. TANAKA, K.-I. KAKIMOTO & H. OHSATO (Japan)
- 3597 Synthesis of BaCeO<sub>3</sub> and BaCe<sub>0.9</sub>Y<sub>0.1</sub>O<sub>3-δ</sub> from mixed oxalate precursors  
A.P. ALMEIDA DE OLIVEIRA, J. HAFSAOUI, J.-F. HOCHEPIED, M.-H. BERGER & A. THOREL (France)
- 3601 Combustion synthesis and EIS characterization of TiO<sub>2</sub>-SnO<sub>2</sub> system  
E. CHINARRO, B. MORENO & J.R. JURADO (Spain)
- 3605 Effects of the sintering atmosphere on the BaZn<sub>1/3</sub>Ta<sub>2/3</sub>O<sub>3</sub> based Cu multilayer ceramic capacitors  
S. MARINEL, F. ROULLAND, S. D'ASTORG & A. CHAOUCHI (France)
- 3609 Synthesis of Nb-doped SrTiO<sub>3</sub> by a modified glycine-nitrate process  
P. BLENNOW (Denmark, Sweden), K.K. HANSEN (Denmark), L.R. WALLENBERG (Sweden) & M. MOGENSEN (Denmark)
- 3613 Low temperature sintering and high piezoelectric properties of strontium doped PNZT-PNN ceramics processed via the columbite route  
F. BAMIÈRE, K. BENKERT, M. RADANIELINA, C. SCHUH & M.J. HOFFMANN (Germany)
- 3619 Synthesis of ceria-based electrolyte nanometric powders by urea-combustion technique  
E. CHINARRO, J.R. JURADO & M.T. COLOMER (Spain)
- 3625 Preparation of BaZrO<sub>3</sub> nanopowders by spray pyrolysis method  
M.M. BUĆKO & J. OBŁĄKOWSKI (Poland)
- 3629 Improvement of translucency in Al<sub>2</sub>O<sub>3</sub> ceramics by two-step sintering technique  
D.-S. KIM, J.-H. LEE, R.J. SUNG, S.W. KIM, H.S. KIM & J.S. PARK (South Korea)
- 3633 Development of texture in Bi<sub>0.5</sub>Na<sub>0.5</sub>TiO<sub>3</sub> prepared by reactive-templated grain growth process  
T. MOTOHASHI & T. KIMURA (Japan)
- 3637 An investigation on physical properties of strontium hexaferrite nanopowder synthesized by a sol-gel auto-combustion process with addition of cationic surfactant  
M. GHOBEITI HASAB, S.A. SEYYED EBRAHIMI & A. BADIEI (Iran)
- 3641 Processing and dielectric properties of Bi<sub>4</sub>Sr<sub>n</sub>-3Ti<sub>n</sub>O<sub>3n+3</sub> (*n* = 3, 4 and 5) ceramics obtained from mechanochemically activated precursors  
P. FERRER, M. ALGUERÓ, J.E. IGLESIAS & A. CASTRO (Spain)
- 3647 Soft-chemical derived Bi<sub>2</sub>O<sub>3</sub>-ZnO-Ta<sub>2</sub>O<sub>5</sub> nanopowder and ceramics  
S.M. ZANETTI, M.G.S. PEREIRA & M.C.A. NONO (Brazil)
- 3651 Effect of collector grounding on directionality of electrospun titania fibers  
S.-J. LEE, N.-I. CHO & D.Y. LEE (South Korea)
- 3655 Investigation of Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> ceramics prepared from powders synthesized by the modified Pechini route  
A. IANCULESCU, D. BERGER (Romania), M. VIVIANI (Italy), C.E. CIOMAGA, L. MITOSERIU, E. VASILE, N. DRĂGAN & D. CRIŞAN (Romania)
- 3659 Electrical properties of cordierite obtained by non-hydrolytic sol-gel method  
I. JANKOVIĆ-ČASTVAN, S. LAZAREVIĆ, B. JORDOVIĆ, R. PETROVIĆ, D. TANASKOVIĆ & D. JANACKOVIĆ (Serbia)
- 3663 Synthesis and characterization of electroceramics with magnetoelectric properties  
J. DE FRUTOS (Spain), J.A. MATUTES-AQUINO (Mexico), F. CEBOLLADA (Spain), M.E. BOTELLO-ZUBIATE (Mexico), E. MENÉNDEZ (Spain), V. CORRAL-FLORES (Mexico), F.J. JIMÉNEZ & A.M. GONZÁLEZ (Spain)
- 3667 Synthesis and luminescent characterization of zinc thiogallate  
J.W. KIM & Y.J. KIM (Republic of Korea)
- 3671 Synthesis of nano-sized gadolinia doped ceria powder by aerosol flame deposition  
J.M. IM, H.J. YOU, Y.S. YOON & D.W. SHIN (Republic of Korea)
- Characterization of Electroceramics**
- 3677 Structural characterization of Ce<sub>1-x</sub>Zr<sub>x</sub>O<sub>2</sub> (0 ≤ *x* ≤ 1) samples prepared at 1650 °C by solid state reaction. A combined TEM and XRD study  
A. VAREZ, E. GARCIA-GONZALEZ, J. JOLLY & J. SANZ (Spain)

- 3683 Raman scattering study of the high temperature phase transitions of  $\text{NaTaO}_3$   
N.G. TEIXEIRA, A. DIAS & R.L. MOREIRA (Brazil)
- 3687 Structure versus relaxor properties in Aurivillius type compounds  
J. TELLIER, P. BOULLAY (France), D. BEN JENNET (Tunisia) & D. MERCURIO (France)
- 3691 *In situ* UV-vis and EXAFS studies of  $\text{ZnO}$  quantum-sized nanocrystals and Zn-HDS formations from sol-gel route  
C.V. SANTILLI, S.H. PULCINELLI, M.S. TOKUMOTO (Brazil) & V. BRIOIS (France)
- 3697 Fabrication and properties of textured Bi-based cobaltite thermoelectric rods by zone melting  
A. SOTELO, E. GUILMEAU, M.A. MADRE, S. MARINEL, J.C. DIEZ & M. PREVEL (Spain)
- 3701 Study of polar relaxation processes in  $\text{Sr}_{(1-1.5x)}\text{La}_x\text{TiO}_3$  ceramics by using field-induced thermally stimulated currents  
A. ALMEIDA, T.M. CORREIA, M.R. CHAVES, P.M. VILARINHO, A.L. KHOLKIN & A.M. COSTA (Portugal)
- 3705 Dielectric permittivity and  $\text{Cr}^{3+}$  impurity ion probe luminescence in  $\text{SrTiO}_3$  sol-gel ceramics  
V.A. TREPAKOV (Czech Republic, Russia), M.E. SAVINOV (Czech Republic), O. OKHAY, A. TKACH, P.M. VILARINHO, A.L. KHOLKIN (Portugal), I. GREGORA & L. JASTRABIK (Czech Republic)
- 3709  $\text{BiFeO}_3$ : Synchrotron radiation structure refinement and magnetoelectric geometry  
A. REYES, C. DE LA VEGA, M.E. FUENTES & L. FUENTES (Mexico)
- 3713 Far-infrared and THz spectroscopy of 0.4PMN–0.3PSN–0.3PZN relaxor ferroelectric ceramics  
J. MACUTKEVIC (Lithuania), S. KAMBA (Czech Republic), J. BANYS (Lithuania), A. PASHKIN (Czech Republic), K. BORMANIS & A. STERNBERG (Latvia)
- 3719 Microstructural characterization using the Rietveld method in lead lanthanum titanate ceramics system produced by combustion synthesis  
M. MIR, C.C. DE PAULA, D. GARCIA, R.H.G.A. KIMINAMI, J.A. EIRAS & Y.P. MASCARENHAS ()
- 3723 Hysteresis and tunability characteristics of  $\text{Ba}(\text{Zr},\text{Ti})\text{O}_3$  ceramics described by First Order Reversal Curves diagrams  
L. MITOSERIU (Romania, Italy), C.E. CIOMAGA (Romania), V. BUSAGLIA (Italy), L. STOLERIU (Romania), D. PIAZZA, C. GALASSI (Italy), A. STANCU (Romania) & P. NANNI (Italy)
- 3727 Far infrared reflection spectroscopy of  $\text{Zn}_2\text{SnO}_4$  ceramics obtained by sintering mechanically activated  $\text{ZnO}-\text{SnO}_2$  powder mixtures  
M.V. NIKOLIĆ, T. IVETIĆ (Serbia), K.M. PARASKEVOPOULOS, K.T. ZORBAS (Greece), V. BLAGOJEVIĆ & D. VASILJEVIĆ-RADOVIĆ (Serbia)
- 3731 Impedance spectroscopy study of  $\text{Nd}_2\text{NiO}_{4+\delta}$ , LSM and platinum electrodes by micro-contact technique  
F. MAUVY, C. LALANNE, S. FOURCADE, J.M. BASSAT & J.C. GRENIER (France)
- 3735 Microstructure and high-temperature thermoelectric properties of polycrystalline  $\text{CuAl}_{1-x}\text{Mg}_x\text{O}_2$  ceramics  
K. PARK, K.Y. KO, J.K. SEONG & S. NAHM (Republic of Korea)
- 3739 Effective elastic properties for unpoled barium titanate  
A.C. DENT, C.R. BOWEN, R. STEVENS, M.G. CAIN & M. STEWART (UK)
- 3745 Characterization of luminescent properties of  $\text{ZnO}:\text{Er}$  thin films prepared by rf magnetron sputtering  
H. SONG & Y.J. KIM (Republic of Korea)
- 3749 Preparation and characterization of  $\text{ZrO}_2/\text{Ti}$  electrode for waste water purification system  
H.-J. KIM, W.-K. SON, T.-I. KIM, K.-S. KANG (Republic of Korea), T. OSAKA (Japan) & S.-G. PARK (Republic of Korea)

***Thick and Thin Films***

- 3753 Growth process approaches for improved properties of tunable ferroelectric thin films  
T. YAMADA, V.O. SHERMAN, D. SU, P. MURALT, A.K. TAGANTSEV & N. SETTER (Switzerland)
- 3759 Piezoelectric thick films and their application in MEMS  
Z. WANG, J. MIAO & W. ZHU (Singapore)
- 3765 Fabrication and characterization of intergrown  $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ -based thin films using a metal-organic precursor solution  
W. SAKAMOTO, K. IMADA, T. SHIMURA & T. YOGO (Japan)

- 3769 Deposition of highly oriented lanthanum nickel oxide thin film on silicon wafer by CSD  
H. SUZUKI, T. NAOE, H. MIYAZAKI & T. OTA (Japan)
- 3775  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ – $\text{PbTiO}_3$  thick films from mechanochemically synthesized powder  
M. KOSEC, J. HOLC, D. KUSCER & S. DRNOVŠEK (Slovenia)
- 3779 Comparison of two molten flux process for the elaboration of textured PZT thin plates  
C. COURTOIS, S. DEVEMY, P. CHAMPAGNE, M. LIPPERT, M. RGUITI, A. LERICHE, D. CHATEIGNER & E. GUILMEAU (France)
- 3785 High throughput method for  $\text{K}_{0.5}\text{Na}_{0.5}\text{NbO}_3$  thin films preparation by chemical solution deposition  
C. SCHROETER, B. WESSLER & L.M. ENG (Germany)
- 3789 Multi-target reactive sputtering—A promising technology for large-area  $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$  thin film deposition  
G. SUCHANECK, W.-M. LIN, V.S. VIDYARTHİ, G. GERLACH & J. HARTUNG (Germany)
- 3793 Microwave enhanced sintering of tape-cast ferroelectric films  
H.-Y. CHANG, C.-I. SHEU & S.-Y. CHENG (Taiwan)
- 3799 Barium strontium titanate nanocrystalline thin films prepared by soft chemical method  
T. MAZON, M.A. ZAGHETE, J.A. VARELA & E. LONGO (Brazil)
- 3803 Electron trapping of laser-induced carriers in Er-doped  $\text{SnO}_2$  thin films  
E.A. MORAIS & L.V.A. SCALVI (Brazil)
- 3807 Dielectric properties of amorphous  $\text{BaTiO}_3$  films deposited by RF magnetron sputtering  
F.E. KAMEL (France, Tunisia), P. GONON (France), F. JOMNI & B. YANGUI (Tunisia)
- 3811 Dielectric investigations of PLT(28) thin film prepared by reactive magnetron sputter  
H.H. KIM, K.J. LIM, S.G. PARK & D.H. PARK (Republic of Korea)
- 3815 The ultraviolet emission mechanism of  $\text{ZnO}$  thin film fabricated by sol–gel technology  
P.T. HSIEH, Y.C. CHEN, K.S. KAO, M.S. LEE & C.C. CHENG (Taiwan)
- 3819 Tailoring of morphology and orientation of  $\text{LaNiO}_3$  films from polymeric precursors  
M. POĆUĆA, G. BRANKOVIĆ, Z. BRANKOVIĆ, D. VASILJEVIĆ-RADOVIĆ & M. MITRIĆ (Serbia)
- 3823 EPD of thick films for their application in lithium batteries  
B. FERRARI, R. MORENO, L. HERNÁN, M. MELERO, J. MORALES & A. CABALLERO (Spain)
- 3829 Dielectric properties of sol–gel derived  $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$  thin films onto  $\text{Pt}/\text{TiO}_2/\text{Si}(1\ 0\ 0)$  substrates  
R. JIMÉNEZ, M.L. CALZADA, I. BRETOS (Spain), J.C. GOES & A.S.B. SOMBRA (Brazil)
- 3835 Nonstationary photocurrent and pyroelectric response in aged  $\text{Sn}_2\text{P}_2\text{S}_6$  films  
A.A. BOGOMOLOV, A.V. SOLNYSHKIN (Russia), D.A. KISELEV (Russia, Portugal), I.P. RAEVSKY, N.P. PROTZENKO & D.N. SANDJIEV (Russia)
- 3839 The dielectric properties of epoxy/AlN composites  
C.-C. WU, Y.-C. CHEN, C.-F. YANG, C.-C. SU & C.-C. DIAO (Taiwan)

### *Microwave Dielectrics*

- 3843 Dielectric properties and phase transitions of  $\text{Bi}_3\text{Nb}_{1-x}\text{Ta}_x\text{O}_7$  fluorite-type dielectrics  
U. PIRNAT & D. SUVOROV (Slovenia)
- 3847 Microwave performance of thin film ferroelectric varactors in the wide temperature range of  $-223\text{ }^\circ\text{C}$  to  $+227\text{ }^\circ\text{C}$   
A. VOROBIEV & S. GEVORGIAN (Sweden)
- 3851  $\text{SrTiO}_3/\text{BaTiO}_3$  multilayers thin films for integrated tunable capacitors applications  
B. GUIGUES, J. GUILLAN, E. DEFAÝ, P. GARREC, D. WOLOZAN, B. ANDRÉ, F. LAUGIER, R. PANTEL, X. GAGNARD & M. AÏD (France)
- 3855 Microwave dielectric properties of  $\text{MgCo}_2(\text{VO}_4)_2$  ceramics synthesized by a sol–gel method  
J. BANG (Republic of Korea)
- 3861 Manufacture and measurement of combinatorial libraries of dielectric ceramics. Part I: Physical characterisation of  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  libraries  
R.C. PULLAR, Y. ZHANG, L. CHEN, S. YANG, J.R.G. EVANS & N.M. ALFORD (UK)

**Varistors and Termistors**

- 3867 Varistors based in the ZnO–Bi<sub>2</sub>O<sub>3</sub> system: Microstructure control and properties  
M. PEITEADO, J.F. FERNÁNDEZ & A.C. CABALLERO (Spain)
- 3873 The effect of manganese substitution to gallium on the physical properties of MgGa<sub>2-x</sub>Mn<sub>x</sub>O<sub>4</sub> spinel type ceramic thermistors  
A. VERES, J.G. NOUDEM, O. PEREZ, S. FOURREZ & G. BAILLEUL (France)
- 3877 Lead free PTCR ceramics and its electrical properties  
T. SHIMADA, K. TOUJI, Y. KATSUYAMA, H. TAKEDA & T. SHIOSAKI (Japan)
- 3883 Screen-printed varistors: New strategy for high non-linear coefficient  
C. LUCAT, M.-P. MARTIN, H. DEBÉDA-HICKEL, A. LARGETEAU & F. MÉNIL (France)
- 3887 Improved non-linear behaviour of ZnO-based varistor thick films prepared by tape casting and screen printing  
M.A. DE LA RUBIA, M. PEITEADO, J. DE FRUTOS, F. RUBIO-MARCOS, J.F. FERNÁNDEZ & A.C. CABALLERO (Spain)
- 3893 Synthesis of SnO<sub>2</sub> by chemical routes and its use in varistors production  
A. MOSQUERA, J.E. RODRÍGUEZ-PÁEZ (Colombia), J.A. VARELA & P.R. BUENO (Brazil)
- 3897 ZnO varistors from intensively milled powders  
M. ŽUNIĆ, Z. BRANKOVIĆ (Serbia and Montenegro), S. BERNIK (Slovenia), M.S. GÓES (Brazil) & G. BRANKOVIĆ (Serbia and Montenegro)
- 3901 Nonlinear *I*–*V* electrical behaviour of doped CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> ceramics  
P. LERET, J.F. FERNANDEZ, J. DE FRUTOS & D. FERNÁNDEZ-HEVIA (Spain)
- 3907 Advances in the study of the conduction modes in SnO<sub>2</sub> varistors  
R. PARRA, M.A. PONCE, C.M. ALDAO & M.S. CASTRO (Argentina)

**Semiconductors and Magnetic Materials**

- 3911 Magnetic properties of Cu<sub>1+x</sub>Mn<sub>2-x</sub>O<sub>4</sub> and Ni<sub>1+x</sub>Mn<sub>2-x</sub>O<sub>4</sub> solid solutions  
O. PEÑA, X. CAILLEAUX, B. PIRIOU (France), M. DEL CANTO, S. ABARCA, E. RÍOS, J. ORTIZ, J.L. GAUTIER (Chile), P.N. LISBOA-FILHO (Brazil) & C. MOURE (Spain)
- 3915 Phase evolution of Zn<sub>1-x</sub>Mn<sub>x</sub>O system synthesized via oxalate precursors  
M. PEITEADO (Slovenia), A.C. CABALLERO (Spain) & D. MAKOVEC (Slovenia)
- 3919 (La,Sr)(Mn,Me)O<sub>3</sub> manganites doped with d metals: Study of charge compensation mechanisms by crystallographic and magnetic characterizations  
O.I. V'YUNOV, A.G. BELOUS, A.I. TOVSTOLYTKIN & O.Z. YANCHEVSKII (Ukraine)
- 3923 Electrical transport and magnetic properties of Mn<sub>3</sub>O<sub>4</sub>–La<sub>0.7</sub>Ca<sub>0.3</sub>MnO<sub>3</sub> ceramic composites prepared by a one-step spray-drying technique  
B. VERTRUYEN, J.-F. FAGNARD, P. VANDERBEMDEN, M. AUSLOOS, A. RULMONT & R. CLOOTS (Belgium)
- 3927 Magnetic properties of Er(Co, Mn)O<sub>3</sub> perovskites  
A.B. ANTUNES (France, Brazil), V. GIL, C. MOURE (Spain) & O. PEÑA (France)
- 3931 Current–voltage characteristic behaviour of dense Zn<sub>2</sub>SnO<sub>4</sub>–ZnO ceramics  
Y. IGLESIAS, M. PEITEADO, J. DE FRUTOS & A.C. CABALLERO (Spain)
- 3935 Complex impedance spectroscopy study of a liquid-phase-sintered α-SiC ceramic  
J. SÁNCHEZ-GONZÁLEZ, A.L. ORTIZ, F. GUIBERTEAU & C. PASCUAL (Spain)
- 3941 Processing and phase separation of LSMO-based multiferroic composite ceramics  
G.B. SONG (Portugal, PR China), J.S. AMARAL, V.S. AMARAL & A.L. KHOLKIN (Portugal)
- 3947 Magnetic and ferroelectric domain structures in BaTiO<sub>3</sub>–(Ni<sub>0.5</sub>Zn<sub>0.5</sub>)Fe<sub>2</sub>O<sub>4</sub> multiferroic ceramics  
C. HARNAGEA (Canada), L. MITOSERIU (Romania, Italy), V. BUSCAGLIA, I. PALLECCHI & P. NANNI (Italy)
- 3951 High temperature properties of multiferroic BiFeO<sub>3</sub>–DyFeO<sub>3</sub>–BaTiO<sub>3</sub> solid solutions  
J.S. KIM, C.I. CHEON, H.-J. KANG & PW. JANG (Republic of Korea)
- 3955 Synthesis and crystal structures of *n* = 3 Ruddlesden–Popper phase CaSr<sub>3</sub>Mn<sub>3-x</sub>Fe<sub>x</sub>O<sub>10</sub> (*x* = 1.5, 1.0)  
J. SHIN & J.Y. LEE (Republic of Korea)

- 3959 Properties variation of Bi-2212 directionally solidified induced by 0.4Pb substitution  
M. MORA, A. SOTELO, H. AMAVEDA, M.A. MADRE, J.C. DIEZ, F. CAPEL & J.M. LÓPEZ-CEPERO (Spain)
- 3963 Stress corrosion cracking of Bi-2212 thin rods  
J.C. DIEZ, A. SOTELO, M. MORA, H. AMAVEDA & M.A. MADRE (Spain)
- 3967 Spin dependent transport at oxide  $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3/\text{YBa}_2\text{Cu}_3\text{O}_7$  ferromagnet/superconductor interfaces  
V. PEÑA, N. NEMES, C. VISANI, F.Y. BRUNO, D. ARIAS, Z. SEFRIoui, C. LEON (Spain), S.G.E. TE VELTHUIS, A. HOFFMANN (USA), M. GARCIA-HERNANDEZ, J.L. MARTINEZ & J. SANTAMARÍA (Spain)
- Dielectrics, Ferroelectrics, Piezoelectrics and Pyroelectrics*
- 3971 Structure and dielectric properties of  $\text{Ln}_3\text{NbO}_7$  ( $\text{Ln} = \text{Nd}, \text{Gd}, \text{Dy}, \text{Er}, \text{Yb}$  and  $\text{Y}$ )  
L. CAI & J.C. NINO (USA)
- 3977 Injection and selfconsistent charge transport in bulk insulators  
H.-J. FITTING (Germany), N. CORNET, M. TOUZIN, D. GOEURIOT, C. GUERRET-PIÉCOURT & D. TRÉHEUX (France)
- 3983 Electroless multilayer coatings on aluminium–silicon carbide composites for electronics packaging  
A. UREÑA, M.V. UTRILLA, J. RAMS, P. RODRIGO & M. FERRER (Spain)
- 3987 Tuning of the  $\text{Ba}_5\text{Nb}_4\text{O}_{15}$  permittivity temperature coefficient  
S. D'ASTORG, S. MARINEL, A. CHAOUCHE & G. GOUPIL (France)
- 3991 Microstructural evolution and dielectric properties of  $\text{SiO}_2$ -doped  $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$  ceramics  
K.-M. KIM, S.-J. KIM, J.-H. LEE & D.-Y. KIM (South Korea)
- 3997 Dielectric properties of BST/polymer composite  
T. HU, J. JUUTI, H. JANTUNEN & T. VILKMAN (Finland)
- 4003 Ultrasonic and piezoelectric properties of the BT–LMT ceramic system  
V. SAMULIONIS (Lithuania), A. SALAK (Portugal), J. BANYS (Lithuania), V.M. FERREIRA (Portugal) & P. KEBURIS (Lithuania)
- 4007 Characterization of ferroelectrics by thermal wave methods  
A.A. MOVCHIKOVA (Russia), G. SUCHANECK (Germany), O.V. MALYSHKINA (Russia) & G. GERLACH (Germany)
- 4011 1/f electrical noise due to space charge regions  
J.I. IZPURA (Spain)
- 4017 Effect of site occupancies of rare earth ions on electrical properties in Ni-MLCC based on  $\text{BaTiO}_3$   
Y. MIZUNO, H. KISHI, K. OHNUMA, T. ISHIKAWA & H. OHSATO (Japan)
- 4021 Electrocaloric properties of high dielectric constant ferroelectric ceramics  
G. SEBALD, S. PRUVOST, L. SEVEYRAT, L. LEBRUN, D. GUYOMAR & B. GIFFARD (France)
- 4025 Influence of donor and acceptor substitutions on the extrinsic behaviour of PZT piezoceramics  
A. ALBAREDA, R. PÉREZ (Spain), J.E. GARCÍA (Spain, Brazil), D.A. OCHOA, V. GOMIS (Spain) & J.A. EIRAS (Brazil)
- 4029 Non-linear dielectric and piezoelectric response in undoped and  $\text{Nb}^{5+}$  or  $\text{Fe}^{3+}$  doped PZT ceramic system  
J.E. GARCIA (Spain, Brazil), R. PÉREZ, A. ALBAREDA (Spain) & J.A. EIRAS (Brazil)
- 4033 Non-linear dielectric properties in based-PMN relaxor ferroelectrics  
J. DE LOS S. GUERRA, M.H. LENTE & J.A. EIRAS (Brazil)
- 4037 Effects of  $\text{WO}_3$  on the microstructure and optical transmittance of PLZT ferroelectric ceramics  
R. FAVARETTO, D. GARCIA & J.A. EIRAS (Brazil)
- 4041 Dielectric behavior of the  $\text{PbNb}_2\text{O}_6$  ferroelectric ceramic in the frequency range of 20 Hz to 2 GHz  
F. GUERRERO (Brazil, Cuba), Y. LEYET (Cuba), M. VENET, J. DE LOS S. GUERRA & J.A. EIRAS (Brazil)
- 4045 Crystal structure–polarization property relations in  $(\text{Sr}_{0.5-x}\text{Ca}_x)\text{Bi}_{2.25}\text{Na}_{1.25}\text{Nb}_3\text{O}_{12}$  solid solutions  
A. YOKOI, H. OGAWA & N. SHIMIZU (Japan)
- 4051 Dielectric properties of aluminium nitride– $\gamma$ -alon materials  
D. ZIENTARA, M.M. BUĆKO & J. LIS (Poland)

- 4055 Effect of lead content on the structure and piezoelectric properties of hard type lead titanate–zirconate ceramics  
C. MICLEA, C. TANASOIU, C.F. MICLEA, L. AMARANDE, A. GHEORGHIU, I. SPANULESCU, C. PLAVITU, C.T. MICLEA, M.C. CIOANGHER, L. TRUPINA & A. IUGA (Romania)
- 4061 Preparation and characterisation of the Ba(Zr,Ti)<sub>3</sub>O<sub>7</sub> ceramics with relaxor properties  
C. CIOMAGA (Romania), M. VIVIANI, M.T. BUSCAGLIA, V. BUSCAGLIA (Italy), L. MITOSERIU (Romania, Italy), A. STANCU (Romania) & P. NANNI (Italy)
- 4065 Properties related phase evolution in porcelain ceramics  
L. CARBAJAL, F. RUBIO-MARCOS, M.A. BENGOCHEA & J.F. FERNANDEZ (Spain)
- 4071 Li doping effect on properties and phase transformations of KNbO<sub>3</sub>  
V.A. TREPAKOV (Czech Republic, Russia), M.E. SAVINOV, V. ŽELEZNÝ (Czech Republic), P.P. SYRNIKOV (Russia), A. DEYNEKA & L. JASTRABIK (Czech Republic)
- 4075 The nature and phase transition F<sub>RL</sub>–F<sub>RH</sub> in PZT doped with Nb  
J. DE FRUTOS, F.J. JIMÉNEZ, E. MENÉNDEZ, A.M. GONZÁLEZ, M.C. DURO & M.A. DE LA RUBIA (Spain)

**Lead Free Piezoelectrics**

- 4081 Effects of Mn doping on the polarization and leakage current properties in Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> single crystals  
Y. NOGUCHI, K. YAMAMOTO, Y. KITANAKA & M. MIYAYAMA (Japan)
- 4085 Synthesis of polycrystalline platelike KNbO<sub>3</sub> particles by the topochemical micro-crystal conversion method and fabrication of grain-oriented (K<sub>0.5</sub>Na<sub>0.5</sub>)NbO<sub>3</sub> ceramics  
Y. SAITO & H. TAKAO (Japan)
- 4093 Temperature stability of the piezoelectric properties of Li-modified KNN ceramics  
E. HOLLENSTEIN, D. DAMJANOVIC & N. SETTER (Switzerland)
- 4099 Origin of piezoelectricity for langasite A<sub>3</sub>Ga<sub>5</sub>SiO<sub>14</sub> (A = La and Nd) under high pressure  
N. ARAKI, H. OHSATO, K. KAKIMOTO, T. KURIBAYASHI, Y. KUDOH & H. MORIKOSHI (Japan)
- 4103 Growth of (Na, K, Li)(Nb, Ta)O<sub>3</sub> single crystals by solid state crystal growth  
J.G. FISHER, A. BENCAN, J. BERNARD, J. HOLC, M. KOSEC (Slovenia), S. VERNAY & D. RYTZ (Germany)
- 4107 Temperature dependence on the piezoelectric property of (1 – x)(Na<sub>0.5</sub>K<sub>0.5</sub>)NbO<sub>3</sub>–xLiNbO<sub>3</sub> ceramics  
K. HIGASHIDE, K.-I. KAKIMOTO & H. OHSATO (Japan)
- 4111 Densification of tungsten-bronze KBa<sub>2</sub>Nb<sub>5</sub>O<sub>15</sub> lead-free piezoceramics  
K.-I. KAKIMOTO, T. YOSHIFUJI & H. OHSATO (Japan)
- 4115 Electrical properties in WO<sub>3</sub> doped Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> materials  
T. JARDIEL, A.C. CABALLERO & M. VILLEGRAS (Spain)
- 4121 Effect of Na<sub>2</sub>O additions on the sinterability and piezoelectric properties of lead-free 95(Na<sub>0.5</sub>K<sub>0.5</sub>)NbO<sub>3</sub>–5LiTaO<sub>3</sub> ceramics  
M.-S. KIM, D.-S. LEE, E.-C. PARK, S.-J. JEONG & J.-S. SONG (Republic of Korea)
- 4125 Sintering and properties of lead-free (K,Na,Li)(Nb,Ta,Sb)O<sub>3</sub> ceramics  
F. RUBIO-MARCOS, P. OCHOA & J.F. FERNANDEZ (Spain)

**Sensors, Actuators and Transducers**

- 4131 Electrical and holographic characterization of gold catalyzed titania-based layers  
L. ORTOLANI, E. COMINI, P.F. FAZZINI, M. FERRONI, V. GUIDI, P.G. MERLI, V. MORANDI, G. POZZI, G. SBERVEGLIERI & A. VOMIERO (Italy)
- 4135 Characteristics of piezoelectric cantilevers embedded in LTCC  
E. HEINONEN, J. JUUTI & H. JANTUNEN (Finland)
- 4139 Hybrid powder-sol-gel PZT thick films on metallic membranes for piezoelectric applications  
M. ES-SOUNI, S. MAXIMOV, A. PIORRA, J. KRAUSE & C.-H. SOLTERBECK (Germany)
- 4143 SnO<sub>2</sub>–Bi<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub>–Sb<sub>2</sub>O<sub>3</sub> gas sensors obtained by soft chemical method  
A. MONTENEGRO (Colombia), M. PONCE, M.S. CASTRO (Argentina) & J.E. RODRÍGUEZ-PAEZ (Colombia)
- 4147 Lamb waves generation on thin plates using piezocomposites  
Y. GÓMEZ-ULLATE RICÓN, F.J. CHINCHURRETA SEGOVIA & F. MONTERO DE ESPINOSA FREIJO (Spain)

- 4153 Piezoelectric modelling using a time domain finite element program  
Y. GÓMEZ-ULLATE RICÓN & F.M. DE ESPINOSA FREIJO (Spain)
- 4159 Fabrication and characteristics of impact type ultrasonic motor  
K.-J. LIM, J.-S. LEE, S.-H. PARK, S.-H. KANG & H.-H. KIM (Korea)
- 4163 Self-tuned driving of piezoelectric actuators. The case of ultrasonic motors  
J.L. PONS, P. OCHOA, M. VILLEGAS, J.F. FERNÁNDEZ, E. ROCON & J. MORENO (Spain)
- 4169 Properties of a hydrophone produced with porous PZT ceramic  
K. BOUMCHEDDA, M. HAMADI (Algeria) & G. FANTOZZI (France)
- 4173 Statistic analysis of electromechanical response in cymbal piezocomposites  
P. OCHOA, M. VILLEGAS, M.A. RODRIGUEZ & J.F. FERNANDEZ (Spain)
- 4177 PZT thick films for sensor and actuator applications  
S. GEBHARDT, L. SEFFNER, F. SCHLENKRICH & A. SCHÖNECKER (Germany)

*Medical Applications*

- 4181 Hydroxyapatite nanoceramics: Basic physical properties and biointerface modification  
D. ARONOV (Israel), A. KARLOV (Russia) & G. ROSENMAN (Israel)
- 4187 Characterisation of ferroelectric-calcium phosphate composites and ceramics  
J.P. GITTINGS, C.R. BOWEN, I.G. TURNER, F. BAXTER & J. CHAUDHURI (UK)
- 4191 Biomedical instrumentation based on piezoelectric ceramics  
J.L. PONS, E. ROCON, A. FORNER-CORDERO & J. MORENO (Spain)

*Fuel Cells, Batteries and Membranes*

- 4195 Intermediate temperature SOFC single cell test using  $\text{Nd}_{1.95}\text{NiO}_{4+\delta}$  as cathode  
C. LALANNE, F. MAUVY, E. SIEBERT, M.L. FONTAINE, J.M. BASSAT (France), F. ANSART, P. STEVENS (Germany) & J.C. GRENIER (France)
- 4199 The effect of cationic disordering on the electrochemical performances of the layered nitrides  $\text{LiWN}_2$  and  $\text{Li}_{0.84}\text{W}_{1.16}\text{N}_2$   
A. KUHN, M. MARTÍN-GIL (Spain), S. KASKEL, J. STRÄHLE (Germany) & F. GARCÍA-ALVARADO (Spain)
- 4205 Sinterability, microstructures and electrical properties of Ni/Gd-doped ceria cermets used as anode materials for SOFCs  
V. GIL, C. MOURE & J. TARTAJ (Spain)
- 4211 Cathodic overpotential of  $\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_3$  and its composite cathodes LSC–LSGM on  $\text{LaGaO}_3$ -based fuel cell  
K.B. YOO & G.M. CHOI (Republic of Korea)
- 4215 Lithium mobility in titanium based Nasicon  $\text{Li}_{1+x}\text{Ti}_{2-x}\text{Al}_x(\text{PO}_4)_3$  and  $\text{LiTi}_{2-x}\text{Zr}_x(\text{PO}_4)_3$  materials followed by NMR and impedance spectroscopy  
K. ARBI, J.M. ROJO & J. SANZ (Spain)
- 4219 Oxygen-permeating zirconia membrane: The effect of thickness and surface coating  
J.M. LEE & G.M. CHOI (Republic of Korea)
- 4223 LSCM–(YSZ–CGO) composites as improved symmetrical electrodes for solid oxide fuel cells  
J.C. RUIZ-MORALES, J. CANALES-VÁZQUEZ, B. BALLESTEROS-PÉREZ, J. PEÑA-MARTÍNEZ, D. MARRERO-LÓPEZ (Spain), J.T.S. IRVINE (UK) & P. NÚÑEZ (Spain)
- 4229 Fabrication of  $\text{BaCe}_{0.8}\text{Y}_{0.2}\text{O}_3$  dense film on perovskite-type oxide electrode substrates  
M. ASAMOTO, H. SHIRAI, H. YAMAURA & H. YAHIRO (Japan)
- 4233 Combustion synthesis and characterisation of Ni-MO-YSZ ( $M = \text{Mg, Ca, Al}_{2/3}$ ) cermet anodes for SOFCs  
E. CHINARRO (Spain), F.M. FIGUEIREDO (Portugal), G.C. MATHER, J.R. JURADO (Spain) & J.R. FRADE (Portugal)
- 4237 Synthesis and characterisation of a green  $\text{NiO}/\text{La}(\text{Sr})\text{PO}_{4-\delta}$  cermet anode for phosphate based solid oxide fuel cells  
M.T. COLOMER, S. GALLINI & J.R. JURADO (Spain)
- 4241 YSZ/Ni–YSZ semi-cells shaped by electrophoretic deposition  
P. GARCÍA, B. FERRARI, R. MORENO, A.J. SÁNCHEZ-HERENCIA & M.T. COLOMER (Spain)

- 4245 Characterisation of two microporous ceramic membranes with different geometrical parameters: Effect of protein adsorption on electrochemical parameters  
M.I. VÁZQUEZ, R. DE LARA & J. BENAVENTE (Spain)
- 4251 Effect of ionizing radiation on a ceramic microporous membrane  
R. DE LARA & J. BENAVENTE (Spain)
- 4257 Fabrication of NiO/YSZ anode for solid oxide fuel cells by aerosol flame deposition  
Y. YOON, J. IM, H. YOU & D. SHIN (Republic of Korea)
- Ionic, Electronic and Mixed Conductors**
- 4261 Effect of Y and Dy co-doping on electrical conductivity of ceria ceramics  
S.K. TADOKORO & E.N.S. MUCCILLO (Brazil)
- 4265 EXAFS investigation on Sb incorporation effects to electrical transport in  $\text{SnO}_2$  thin films deposited by sol–gel  
V. GERALDO (Brazil), V. BRIOIS (France), L.V.A. SCALVI & C.V. SANTILLI (Brazil)
- 4269 Stability and oxygen transport properties of  $\text{Pr}_2\text{NiO}_{4+\delta}$  ceramics  
A.V. KOVALEVSKY, V.V. KHARTON, A.A. YAREMCHENKO, Y.V. PIVAK, E.N. NAUMOVICH & J.R. FRADE (Portugal)
- 4273 Electrical conductivity of thin film ceria grown by pulsed laser deposition  
J.H. JOO & G.M. CHOI (Republic of Korea)
- 4279 Mixed conductivity, thermal expansion and defect chemistry of A-site deficient  $\text{LaNi}_{0.5}\text{Ti}_{0.5}\text{O}_{3-\delta}$   
S. YAKOVLEV, V. KHARTON, A. YAREMCHENKO, A. KOVALEVSKY, E. NAUMOVICH & J. FRADE (Portugal)
- 4283 Effects of Fe-additions on sintering and transport properties of  $\text{Yb}_2\text{Ti}_{2-y}\text{Fe}_y\text{O}_{7-\delta}$   
A.L. HOROVISTIZ, D.P. FAGG, J.C.C. ABRANTES & J.R. FRADE (Portugal)
- 4287 Electrical properties of the  $\text{Sr}_2\text{Ru}_{1-x}\text{Ti}_x\text{O}_4$  solid solutions  
K. MIWA, I. KAGOMIYA, H. OHSATO, H. SAKAI & Y. MAEDA (Japan)
- 4291 Sol–gel synthesis, X-ray photoelectron spectroscopy and electrical conductivity of Co-doped (La, Sr)  
(Ga, Mg) $\text{O}_{3-\delta}$  perovskites  
R. POLINI, A. FALSETTI, E. TRAVERSA (Italy), O. SCHÄF & P. KNAUTH (France)
- 4297 Electrical conductivity relaxation in lithium doped silver iodide  
H. CORREA, R.A. VARGAS (Colombia), J. GARCÍA-BARRIOCANAL, A. RIVERA, J. SANTAMARÍA & C. LEÓN (Spain)
- COST 539**
- 4301 Smart soft-mechanochemical syntheses of well-crystallized pure phase fine particulates of mixed oxides for electroceramics  
M. SENNA, T. KINOSHITA, Y. ABE, H. KISHI, C. ANDO, Y. DOSHIDA & B. STOJANOVIC (Japan)
- 4307 Nonvolatile gate effect in the PZT/AIGaN/GaN heterostructure  
I. STOLICHNOV, L. MALIN, P. MURALT & N. SETTER (Switzerland)
- 4313 Admittance and dielectric spectroscopy of polycrystalline semiconductors  
P.R. BUENO, J.A. VARELA & E. LONGO (Brazil)
- 4321 Characterization of PZT nanostructures by infrared spectroscopy  
V. ŽELEZNÝ, D. CHVOSTOVÁ (Czech Republic), I. SZAFRANIAK (Poland), M. ALEXE & D. HESSE (Germany)
- 4325 Structural properties of europia-doped-gadolinia synthesized through aerosol  
M.E. RABANAL, L.S. GÓMEZ, A. KHALIFA, J.M. TORRALBA (Spain), L. MANCIC & O. MILOSEVIC (Serbia and Montenegro)
- 4329 Phase evolution in Ce-doped yttrium–aluminum-based particles derived from aerosol  
L. MANĆIĆ (Serbia and Montenegro), G. DEL ROSARIO (Spain), Z.V.M. STANOJEVIĆ & O. MILOŠEVIĆ (Serbia and Montenegro)
- 4333 Chemical vapor synthesis and characterization of chromium doped zinc oxide nanoparticles  
W. JIN, I.-K. LEE, A. KOMPCH, U. DÖRFLER & M. WINTERER (Germany)

- 4339 One-dimensional titanate nanostructures: Synthesis and characterization  
R.R. DJENADIC, L.M. NIKOLIC (Serbia), K.P. GIANNAKOPOULOS (Greece), B. STOJANOVIC & V.V. SRDIC (Serbia)
- 4345 Sintering of gadolinia-doped ceria prepared by mechanochemical synthesis  
K. MACA, J. CIHLAR, K. CASTKOVA, O. ZMESKAL & H. HADRABA (Czech Republic)
- 4349 Characterization of  $\text{PbZrO}_3$  prepared using an alkoxide-based sol–gel synthesis route with different hydrolysis conditions  
E.-D. ION (Slovenia, Romania), B. MALIC & M. KOSEC (Slovenia)
- 4353 Properties of compositionally graded  $\text{Ba}_{(1-x)}\text{Sr}_x\text{TiO}_3$  self-standing thick films  
M. VIVIANI (Italy), J. BARREL (New Zealand), M.T. BUSCAGLIA, V. BUSCAGLIA (Italy), M. VARDAVOULIAS (Greece) & E. STYTSENKO (New Zealand)
- 4359 Screen printed PLZT thick films prepared from nanopowders  
B.D. STOJANOVIC, V. MITIC, V. PEJOVIC, M.M. VIJATOVIC (Serbia and Montenegro) & M.A. ZAGHETE (Brazil)
- 4363 Synthesis and crystallization pathway of  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  thin film obtained by a modified sol–gel route  
F. RÉMONDIÈRE (France), B. MALIĆ, M. KOSEC () & J.-P. MERCURIO (France)
- 4367 Dielectric properties of BT–LMT mixed ceramics  
P. KEBURIS, J. BANYS, J. GRIGAS, A. BRILINGAS, T. BURTILIUS (Lithuania), A.N. SALAK & V.M. FERREIRA (Portugal)
- 4371 Structural and dielectric studies of the  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ – $\text{BiFeO}_3$  system  
V. DORCET, P. MARCHET & G. TROLLIARD (France)
- 4375 Dielectric properties of  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$  and  $(\text{Pb}_{1-x}\text{La}_x)(\text{Mg}_{(1+x)/3}\text{Nb}_{(2-x)/3})\text{O}_3$  ceramics prepared by columbite route  
A. IANCULESCU, A. BRAILEANU (Romania), M. VIVIANI (Italy) & L. MITOŞERIU (Romania)
- 4379  $\text{BaTiO}_3$ – $(\text{Ni}_{0.5}\text{Zn}_{0.5})\text{Fe}_2\text{O}_4$  ceramic composites with ferroelectric and magnetic properties  
L. MITOŞERIU (Romania, Italy), V. BUSCAGLIA, M. VIVIANI, M.T. BUSCAGLIA, I. PALLECCHI (Italy), C. HARNAGEA (Canada), A. TESTINO, V. TREFILETTI, P. NANNI & A.S. SIRI (Italy)
- 4383 Broadband dielectric spectroscopy of PSN ceramics  
R. GRIGALAITIS, J. BANYS (Lithuania), A. STERNBERG, K. BORMANIS & V. ZAULS (Latvia)
- 4391 Synthesis and structural characterization of In-doped  $\text{ZnFe}_2\text{O}_4$  nanoparticles  
M. MALETIN (Serbia), E.G. MOSHOPOULOU, A.G. KONTOS, E. DEVLIN, A. DELIMITIS, V.T. ZASPALIS, L. NALBANDIAN (Greece) & V.V. SRDIC (Serbia)
- 4395 Pure and doped lanthanum manganites obtained by combustion method  
D. BERGER, C. MATEI, F. PAPA, D. MACOVEI, V. FRUTH (Romania) & J.P. DELOUME (France)
- 4399 Characterization of  $\text{BiFeO}_3$  nanopowder obtained by mechanochemical synthesis  
I. SZAFRANIAK, M. POLOMSKA, B. HILCZER, A. PIETRASZKO & L. KĘPIŃSKI (Poland)
- 4403 Local switching behavior and electrical polarization of ferroelectric thin films under nanoindentation  
V. KOVAL, J. DUSZA (Slovak Republic), A.J. BUSHBY & M.J. REECE (UK)
- 4407 Characterization of  $\text{LaCoO}_3$  powders obtained by water-based sol–gel method with citric acid  
L. PREDOANA (Romania), B. MALIC, M. KOSEC (Slovenia), M. CARATA, M. CALDARARU & M. ZAHARESCU (Romania)
- 4413 Evaluation and renovation of a mechanical activator for highly reactive precursors of electroceramics  
S. NAKAYAMA, S. NAGARE, K. HAMADA, Y. ABE & M. SENNA (Japan)
- 4417 Chemical solution deposition and characterization of  $\text{BiFeO}_3$  thin films  
V. FRUTH (Romania), M. POPA (Romania, Spain), J.M. CALDERON-MORENO (Spain), E.M. ANGHEL, D. BERGER, M. GARTNER, M. ANASTASESCU, P. OSICEANU & M. ZAHARESCU (Romania)
- 4421 Structural and electrochemical features of  $\text{Bi}_2\text{O}_3$ -based fast oxide ion conductors  
V. FRUTH, G. DOBRESCU, V. BRATAN, C. HORNOIU, S. PREDA, C. ANDRONESCU & M. POPA (Romania)

**Volume 27 Number 16 2007**

- 4425 Prediction of the functional properties of ceramic materials from composition using artificial neural networks  
D.J. SCOTT, P.V. COVENEY, J.A. KILNER, J.C.H. ROSSINY & N.M.N. ALFORD (UK)
- 4437 Manufacture and measurement of combinatorial libraries of dielectric ceramics. Part II. Dielectric measurements of  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  libraries  
R.C. PULLAR, Y. ZHANG, L. CHEN, S. YANG, J.R.G. EVANS, P.K. PETROV (UK), A.N. SALAK, D.A. KISELEV, A.L. KHOLKIN, V.M. FERREIRA (Portugal) & N.M. ALFORD (UK)
- 4445 Investigation of some niobate-based dielectrics in view of base metal co-sintering  
S. D'ASTORG, S. MARINEL, O. PEREZ & A. VERES (France)
- 4453 An investigation of  $(\text{Na}_{0.5}\text{K}_{0.5})\text{NbO}_3-\text{CaTiO}_3$  based lead-free ceramics and surface acoustic wave devices  
R.-C. CHANG, S.-Y. CHU, Y.-F. LIN, C.-S. HONG & Y.-P. WONG (Taiwan)
- 4461 Synthesis, densification and electrical properties of strontium cerate ceramics  
P.I. DAHL, R. HAUGSRUD, H.L. LEIN, T. GRANDE, T. NORBY & M.-A. EINARSrud (Norway)
- 4473 Effects of Mg/Fe substitution on perovskite stabilization and dielectric properties of  $\text{Pb}(\text{Zn}_{1/2}\text{W}_{1/2})\text{O}_3$   
W.-J. LEE, J.-S. KIM & N.-K. KIM (Republic of Korea)
- 4479 Effect of glass additions on the sintering and microwave properties of composite dielectric ceramics based on  $\text{BaO}-\text{Ln}_2\text{O}_3-\text{TiO}_2$  ( $\text{Ln} = \text{Nd}, \text{La}$ )  
H. ZHENG, I.M. REANEY, D. MUIR, T. PRICE & D.M. IDDLES (UK)
- 4489 Formation of  $\text{BaTiO}_3$  nanoparticles from an aqueous precursor by flame-assisted spray pyrolysis  
A. PURWANTO, W.-N. WANG, I.W. LENGGORO & K. OKUYAMA (Japan)
- 4499 A- and B-compensated PLZT  $x/90/10$ : Sintering and microstructural analysis  
D. KUSCER (Slovenia), J. KORZEKWA (Poland), M. KOSEC (Slovenia) & R. SKULSKI (Poland)
- 4509 Stability of  $\text{SrFeO}_3$  based materials in the presence of  $\text{SiO}_x$  species in humid atmosphere at high temperatures and pressures  
I. KAUS, K. WIJK, M. DAHLE, M. BRUSTAD & S. AASLAND (Norway)
- 4515 The mechanism of the low-temperature formation of barium hexaferrite  
D. LISJAK & M. DROFENIK (Slovenia)
- 4521 Effect of Ag on the microstructure and electrical properties of  $\text{ZnO}$   
S.-T. KUO, W.-H. TUAN, J. SHIEH & S.-F. WANG (Taiwan)
- 4529 Preparation of a porous nanocrystalline  $\text{TiO}_2$  layer by deposition of hydrothermally synthesized nanoparticles  
J. BEUSEN, M.K. VAN BAEEL, H. VAN DEN RUL, J. D'HAEN & J. MULLENS (Belgium)
- 4537 Influence of synthesis parameters on morphology and phase composition of porous titania layers prepared via water based chemical solution deposition  
I. TRUIJEN, I. HAELDERMANS, M.K. VAN BAEEL, H. VAN DEN RUL, J. D'HAEN, J. MULLENS, H. TERRYN & V. GOOSSENS (Belgium)
- 4547 Preparation of bioactive sodium titanate ceramics  
I. BECKER, I. HOFMANN & F.A. MÜLLER (Germany)
- 4555 Effect of coating on cleanability of glazed surfaces  
J. MÄÄTTÄ, M. PIISPANEN, R. KUISMA, H.-R. KYMÄLÄINEN, A. UUSI-RAUVA, K.-R. HURME, S. AREVA, A.-M. SJÖBERG & L. HUPA (Finland)
- 4561 Towards more ecological ceramic pigments: Study of the influence of glass composition on the colour stability of a pink chromium-doped ceramic pigment  
M. MARTOS, M. MARTÍNEZ, E. CORDONCILLO & P. ESCRIBANO (Spain)
- 4569 Effects of UV-radiation on the cleanability of titanium dioxide-coated glazed ceramic tiles  
J. MÄÄTTÄ, M. PIISPANEN, H.-R. KYMÄLÄINEN, A. UUSI-RAUVA, K.-R. HURME, S. AREVA, A.-M. SJÖBERG & L. HUPA (Finland)
- 4575 BAS, CMAS and CZAS glass coatings deposited by plasma spraying  
G. BOLELLI, L. LUSVARGHI, T. MANFREDINI, E. PARISINI & C. SILIGARDI (Italy)

- 4589 Sensitive glasslike sol-gel materials suitable for environmental light sensors  
E. HERRERO, N. CARMONA, J. LLOPIS & M.A. VILLEGRAS (Spain)
- 4595 Ice-mould freeze casting of porous ceramic components  
T. MORITZ & H.-J. RICHTER (Germany)
- 4603 Creep damage resistance of ceramic–matrix composites  
B. WILSHIRE & M.R. BACHE (UK)
- 4613 Creep behaviour of alumina–mullite–zirconia nanocomposites obtained by a colloidal processing route  
R. TORRECILLAS, M. SCHEHL & L.A. DÍAZ (Spain)
- 4623 Effect of spinel content on slag attack resistance of high alumina refractory castables  
L.A. DÍAZ, R. TORRECILLAS, A.H. DE AZA & P. PENA (Spain)
- 4633 Improvement in performance of MgO–CaO refractories by addition of nano-sized ZrO<sub>2</sub>  
M. CHEN, C. LU & J. YU (China)
- 4639 Development of celsian ceramics from fly ash useful for X-ray radiation-shielding application  
S.S. AMRITPHALE, A. ANSHUL, N. CHANDRA & N. RAMAKRISHNAN (India)
- 4649 Development of ceramic floor tile compositions based on quartzite and granite sludges  
P. TORRES, R.S. MANJATE, S. QUARESMA, H.R. FERNANDES & J.M.F. FERREIRA (Portugal)
- 4657 Recycling of chromium-rich leather ashes in porcelain tiles production  
H.R. FERNANDES & J.M.F. FERREIRA (Portugal)
- 4665 Hematite nucleation and growth in the firing of carbonate-rich clay for pottery production  
L. NODARI, E. MARCUZ, L. MARITAN, C. MAZZOLI & U. RUSSO (Italy)
- 4675 Design of 7 wt.% Y<sub>2</sub>O<sub>3</sub>–ZrO<sub>2</sub>/mullite plasma-sprayed composite coatings for increased creep resistance  
E. WITHEY, C. PETORAK, R. TRICE, G. DICKINSON & T. TAYLOR (USA)
- 4685 On the surface morphology of solution annealed Co<sub>1-x</sub>O–MgO—Effects of directional dislocation exposure and Co<sub>1-x</sub>O condensation  
C.-N. HUANG, P. SHEN & K.-Y. HSIEH (Taiwan)
- 4697 Suppression of elastically accommodated grain-boundary sliding in high-purity MgO  
A. BARNHOORN, I. JACKSON, J.D. FITZ GERALD & Y. AIZAWA (Australia)
- 4705 Minimum amount of nano-sized nickel particles to enhance the strength of alumina  
W.-H. TUAN, J.-R. CHEN & T.-J. YANG (Taiwan)
- 4711 Fabrication, optical transmittance, and hardness of IR-transparent ceramics made from nanophase yttria  
H. EILERS (USA)
- 4719 Elasticity and lattice vibrational properties of transparent polycrystalline yttrium–aluminium garnet: Experiments and pair potential calculations  
P. DJEMIA, F. TÉTARD (France), K. BOUAMAMA (Algeria), E. CHARRON, D. TÉTARD & Y. RABINOVITCH (France)
- 4727 Laser densification of alumina powder beds generated using aerosol assisted spray deposition  
Y. WU, J. DU, K.-L. CHOY & L.L. HENCH (UK)
- 4737 Improved sliding wear-resistance of alumina with sub-micron grain size: A comparison with coarser grained material  
R.S. ROY, H. GUCHHAIT, A. CHANDA, D. BASU & M.K. MITRA (India)
- 4745 Template formation of magnesium aluminate (MgAl<sub>2</sub>O<sub>4</sub>) spinel microplatelets in molten salt  
D.D. JAYASEELAN, S. ZHANG (UK), S. HASHIMOTO (Japan) & W.E. LEE (UK)
- 4751 Colloidal behaviour of mullite powders produced by combustion synthesis  
O. BURGOS-MONTES & R. MORENO (Spain)
- 4759 Processing of hot pressed Al<sub>2</sub>O<sub>3</sub>–Cr<sub>2</sub>O<sub>3</sub>/Cr-carbide nanocomposite prepared by MOCVD in fluidized bed  
H.-T. LIN, S.-C. WANG, J.-L. HUANG & S.-Y. CHANG (Taiwan)
- 4767 Low-temperature synthesis/densification and properties of Si<sub>2</sub>N<sub>2</sub>O prepared with Li<sub>2</sub>O additive  
Q. TONG, J. WANG, Z. LI & Y. ZHOU (PR China)

- 4773 La–Si–O–N glasses. Part I. Extension of the glass forming region  
A.S. HAKEEM, J. GRINS & S. ESMAEILZADEH (Sweden)
- 4783 La–Si–O–N glasses. Part II: Vickers hardness and refractive index  
A.S. HAKEEM, J. GRINS & S. ESMAEILZADEH (Sweden)
- 4789 Development of a tape casting process for making thin layers of  $\text{Si}_3\text{N}_4$  and  $\text{Si}_3\text{N}_4 + \text{TiN}$   
G. BLUGAN (Switzerland), K. MORAWA (Poland), S. KOEBEL, T. GRAULE & J. KUEBLER (Switzerland)
- 4797 Stability of ultra-high-temperature  $\text{ZrB}_2$ –SiC ceramics under simulated atmospheric re-entry conditions  
F. MONTEVERDE & R. SAVINO (Italy)
- 4807 Effect of Al addition on the synthesis of  $\text{Ti}_3\text{SiC}_2$  bulk material by pulse discharge sintering process  
S. YANG (Japan, Canada), Z. SUN (Japan), Q. YANG (Canada) & H. HASHIMOTO (Japan)
- 4813 Microstructure-induced thermal stresses in pyrolytic carbon matrices at temperatures up to 2900 °C  
R. PIAT (Germany), Y. LAPUSTA (France), T. BÖHLKE, M. GUELLALI, B. REZNIK, D. GERTHSEN (Germany),  
T. CHEN (Germany, China), R. OBERACKER & M.J. HOFFMANN (Germany)
- 4821 Corrigendum to “Far-infrared and THz spectroscopy of 0.4PMN–0.3PSN–0.3PZN relaxor ferroelectric ceramics”  
[J. Eur. Ceram. Soc. 27 (2007) 3713–3717]  
J. MACUTKEVIC (Lithuania), S. KAMBA (Czech Republic), J. BANYS (Lithuania), A. PASHKIN (Czech  
Republic), K. BORMANIS & A. STERNBERG (Latvia)

III List of contents for volume 27

XLII Author index for volume 27

LVIII Keywords index for volume 27