

Keyword Index

A. Processing

- Calcination 265, 623
- Clays 557
- Films 271, 293
- Finishing 645
- Firing 873
- Grain growth 165, 593, 773, 911
- Hot pressing 51, 227, 387, 459
- Injection moulding 337, 507
- Mixing 377
- Powder 75
- Powders 495
- Powders: chemical preparation 165, 623
- Powders: gas phase reaction 29
- Powders: solid state reaction 887
- Pressing 761
- Sintering (spark plasma sintering SPS) 855
- Sintering 177, 255, 283, 337, 355, 363, 387, 515, 617, 651, 755, 761, 779, 791, 881
- Slip casting 377, 593
- Sol–gel process 741
- Sol–gel processes 737, 935
- Sol–gel technique 609
- Suspension 159, 747
- Suspensions 299, 377, 675
- Tape casting 17, 439, 675

B. Structure and Microstructure

- Composites 51, 217, 447, 527, 617
- Electron microcopy 271
- Grain size 337, 755, 785
- Impurities 439
- Inclusions 553
- Interfaces 23
- Microstructure 153, 195, 209, 217, 223, 279, 283, 363, 369, 407, 425, 651, 773, 935
- Microstructure-final 99, 761
- Nanocomposites 165
- Porosity 755, 873
- Surface 747
- Surfaces 271, 623
- Whiskers 51
- X-ray method 645, 761
- X-ray methods 177, 255, 265, 271, 887

C. Properties

- Dielectric properties 283, 293, 407, 419, 439, 685, 741
- Electrical properties 99, 265, 451, 521, 907
- Fatigue 645
- Ferroelectric properties 609
- Fracture 23
- Impedance 99
- Ionic conductivity 907
- Magnetic properties 467
- Mechanical properties 51, 111, 153, 195, 209, 223, 227, 279, 355, 387, 425, 527, 557, 699
- Optical properties 29
- Strength 755
- Thermal and mechanical properties 585
- Thermal conductivity 601, 711
- Thermal properties 93
- Thermal shock resistance 811
- Toughening 111
- Toughness and toughening 767

D. Compositions

- Al₂O₃ 111, 165, 431, 479, 623, 755, 767
- AlN 23
- Alumina 195, 217, 439, 593
- Apatite 355
- BaTiO₃ 141, 283
- BaTiO₃ and titanates 293, 773
- Carbon 601
- CeO₂ 337
- Clays 887
- Cordierite 79, 177
- Ferrites 855
- Glass ceramic 51, 515, 617, 669, 689, 779
- Glass 737, 767, 873
- Glasses 689, 695
- MgO 805
- Mullite 235, 447, 487, 557, 719, 819, 935
- Niobates 265
- Perovskites 419
- PLZT 271
- Porcelain 303
- Si₃N₄ 51, 495, 645, 705
- SiC 741, 747, 847

D. Compositions

Silicate 177, 527
 Silicates 463, 515
 Silicon carbide 1
 Silicon nitride 637
 SiO₂ 377
 Spinel 487, 663, 719, 805
 TiO₂ 235, 447
 Traditional ceramics 873
 Y₂O₃ 791
 Zirconia 79, 675, 819
 ZrO₂ 431, 447, 553

E. Applications

Biomedical applications 355
 Refractories 575, 601, 887
 Sensors 99
 Structural applications 527
 Varistors 521

Miscellaneous

Additives 195, 819
 Aerogels 43
 Al-rich industrial sludge 319
 Al₂O₃–ZrO₂ composites 159
 AlCl₃ 245
 Alumina–forsterite 663
 Alumina 859, 893
 Alumino-silicate 507
 Ammonium polyacrylate 847
 Anorthite 59
 Antiferroelectric 201
 Aqueous medium 847
 B₄C 425
 Ba(Mg_{1/3}Ta_{2/3})O₃ nanopowder 549
 Barium zirconium titanate 657
 BaTi₄O₉ fibers 685
 BaTi₄O₉ + BaPr₂Ti₄O₁₂ 685
 BaZn_{2–z}Co_zFe₁₆O₂₇ 171
 Bend strength 565
 Bending strength 131, 159
 (Bi_{1–x}Sm_x)NbO₄ 105
 Bi based pyrochlore 231
 Biomaterials 695
 Bloating 131
 Boehmite 893
 Bonding agents 719
 Bustamite 59
 Ca–Mg–Al 515
 Calcium hexaluminate 487
 Carbon nano-capsule 925
 Catalyst support 1
 CaTiO₃ 93
 Cavitation 785
 Ce³⁺, Sm³⁺, Yb³⁺ dopants 141
 CeO₂ 827
 Ceramic 431
 Ceramic composite 111
 Ceramic composites 425
 Ceramic fiber 711
 Ceramic matrix composites 79
 Ceramic powders 327
 Ceramic processing 881
 Ceramics 401
 Ceramic slurries 731
 Ceramic substrate 17
 Ceramic suspensions 731
 Ceramic tile 393
 Characterization 575, 899
 Chelator 865
 Chemical processing 911
 Chemical solution deposition 37
 Chemical synthesis 75, 463
 Chitosan 431
 Clogging effect 377
 Co-precipitation 819
 Coatings 93
 Colloidal processing 401
 Complementary textural porosity 541
 Complexes 327
 Compression-prestress 131
 Convective mass transfer coefficient 835
 Correlation 711
 Cristobalite 123
 Crystal structure 463, 467
 Crystallization 59, 669, 695
 Cubic pyrochlore 231
 Defect barriers 521
 Dehydroxylated kaolinite 235
 Densification 819
 Devitrification 711
 Dielectric ceramics 69
 Diffuseness 419
 Diffusion control 637
 Diffusive phase transition 657
 Diopside 59, 881
 Dispersant 847
 Dispersants 413
 Dispersion 705, 847
 Dissolution 805
 Dolomite magnesite deposits 575
 Doped zirconia thin films 349
 Dynamics 17
 Effective diffusivity 835
 Electrochemical synthesis 115
 Electromagnetic properties 917
 Electrophoretic deposition 893
 Electrosynthesis 467
 Enstatite 663
 EPMA 245
 Ethylene vinyl acetate 507
 Field-induced strain 201
 Flexural strength 79
 Fluorescent glass 503
 Fly ash 689
 Forsterite 663
 Fracture toughness 345
 FT-IR 747
 Functional ceramics 75
 Gas pressure sintering 145
 Gel 17, 431
 Gelcasting 159, 369, 431, 859, 865
 Glass-ceramic 503

- Glass/ceramic composites 123
- Grain coarsening 637
- Grain size dependence 201
- Granulated blast furnace slag 393
- Gypsum 593
- H₂O₂ effect 29
- Hexaferrites 171
- High Al₂O₃ 245
- High alumina castables 719
- High surface area 1
- HMOR 811
- Hydrophilic 43
- Hydrophobic 43
- Hydroxyapatite 299, 617
- In situ 487
- In situ formation 699
- Incineration 689
- Incinerator bottom ash 881
- Incinerator fly ash waste 669
- Interface effects 565
- Interface-reaction control 637
- Kaolinite 479
- Kinetics 479, 669, 711, 835
- Lattice parameter 627
- Lead lanthanum zirconate stannate titanate 201
- LiTaO₃ 111
- Lithium oxide 521
- Luminescence 737
- Magnesia-graphite refractory brick 835
- Magnesium aluminium silicate glass ceramics 585
- Magnetic nano composite 925
- MCM-41 541
- MCM-48 silica 1
- Mechanical performances 899
- Mesorganized carbon phase 1
- MgAl₂O₄ 245
- MgO–C 245
- MgTiO₃–CaTiO₃ 93
- Microstructural evolution 899
- Microstructural toughening 699
- Microstructure properties 123
- Microwave characteristics 105
- Microwave dielectric properties 549
- Microwave properties 171
- Mixed conductivity 627
- Molybdenum carbosilicide 459
- Molybdenum disilicide 387
- Morphology 935
- Multi-layer chip inductors (MLCI) 917
- Multilayer ceramic capacitors 293
- Multilayer composites 223
- N–N-dimethylformamide 705
- Na_xM_x/2Ti_{1–x/2} 841
- Nanocrystalline CoFe₂O₄ thin films 467
- Nanopowder 847
- Nanopowders 705
- Ni–Zn ferrites 363
- Nitrogen atmosphere 145
- NiZnCr ferrites 651
- Nucleation 669
- Optimisation 413
- Organic precursors 265
- Oxidation rate equation 835
- Oxidation 835
- Oxide fibre composite 565
- Particle size 131, 187
- Pb (Mg_{1/3}Nb_{2/3}O₃–CaTiO₃–BiO₄Ti₃O₁₂ system 69
- Permanent linear change 245
- Perovskite oxides 327
- Phase 407
- Phase developments 419
- PIMP 899
- Plasma dissociated zircon 413
- Plasma spraying 93
- Polycrystalline material 841
- Polyethylene glycol 859
- Polyethylene wax 507
- Polymer solution 791
- Polymerizing mechanism 17
- Porcelain body 131
- Pore size 811
- Porous composites 451
- Porous mullite-corundum ceramics 479
- Powder properties 401
- Powder-chemical preparation 827
- Precipitation 805
- Preconsolidation 431
- Preparation 311, 363, 651
- Properties 9, 217, 311
- PTCR effect 141
- PTCR–NTCR effects 261
- Quartz content 131
- Raman spectroscopy 627
- Rare-earth 737
- Raw materials 303
- Reaction coefficient 187
- Reaction conditions 187
- Recrystallized silicon carbide 369
- Recycling 319, 873
- red phosphor 29
- Refractory castables 487
- Refractory materials 319
- Residual stress 645
- Rheological property 369
- Rheology 159, 507, 675
- Rodlike particle 699
- RUL 811
- Secondary phase 195
- Seeding 893
- Si₃N₄ ceramics 279
- Si₃N₄/Ti₃SiC₂ 223
- SiC–AlN composites 145
- SiC/SiC composites 899
- Silica fume 9
- Silicon carbide 865
- Simulated body fluid 37
- Sinterability 123
- Sintering 557, 827
- Slag erosion 245
- Slag penetration 245
- Slag resistance 805, 811
- Slag-glass 59
- Sm₂O₃ 105
- Sodium alginate 865
- Sol–gel 171, 349
- Sol-precipitation 187
- Solar furnace 345
- Solidified agent 865
- Sols 719
- Specific surface area 811
- Spectra 737
- Spinel composites 153
- Spinel–forsterite 663
- Spray pyrolysis 29

- Sr₂Nb₂O₇ additive 209
Sr_xPb_{1-x}TiO₃ thermistors 261
SrBi₂Ta₂O₉ 609
SrTiO₃:PrAl 29
Stepwise isothermal dilatometry 479
Streaming potential 413
Structure 451
Substitution reaction 657
Supercritical 43
Superplastic deformation 785
Surface hardness 553
Surface morphology 467
Surface-exfoliation 859
Surfactant/TEOS 541
Synthesis 227, 459, 495, 935
Ta₂O₅·nH₂O colloid 549
TBCCO films 115
Temperature coefficient 231
Tetragonal zirconia 627
TG 835
Thermal expansion coefficient 79
Thermal stability 43, 541
Thermo gravimeter 835
Thermoelectric properties 841
Thick film metallization 23
Thicker wall 541
Thin film 609
Ti_{100-x}/HAP_x 37
Ti₃SiC₂ 227, 761
Ti₃SiC₂ Al₂O₃ agglomeration 931
Tiles 303
Tin oxide 521
TiO₂ additive 911
Titanium carbide 217, 553
Toughness 565
Tribological performance 349
Triethanolamine 705
Tungsten carbide 345
Viscosity 731
Vitrification 689, 779
Volume concentration of solids 731
Waste 873
Waste disposal 689
Waste management 881
Waste reuse 881
Water-based slurries 675
Wet-chemical process 549
Wetting 805
Whitewares 9
Wollastonite 393
(W,Ti)C 425
X-ray diffraction 463
XPS 627
Ytterbium 657
Z-type planar hexaferrite 917
Zeolites 177
Zeta potential 299
Zirconia–mullite composites 311
Zn substitution 917
ZnO–Bi₂O₃–CoO–MnO ceramics 911
(Zr_{0.8}Sn_{0.2})TiO₄ 407
ZrO₂/HA 451
ZTA ceramics 699
ZTA 827
α-Form 105
α/β Ratio 279
β-Form 105
β-Wollastonite 503
3Y–TZP/Al₂O₃ ceramics 209
3Y–TZP 785