

Contents of Volume 8

Number 1

Editorial	1
Formation of an Y/Ce-Doped α -Sialon Phase	3
THOMMY EKSTRÖM, KJELL JANSSON, PER-OLOF OLSSON & JONAS PERSSON (Sweden)	
Determination of the Concentration of Oxygen Dissolved in the AlN Lattice by Hot Gas Extraction from AlN Ceramics	11
ANDREAS THOMAS & GERD MÜLLER (FRG)	
α/β -Phase Transformation of Si_3N_4 without Sintering Additives	21
P. ŠAJGALÍK (CSFR)	
Synthesis and Characterization of Si-Zr-C-O Ceramics from Polymer Precursors	29
FLORENCE BABONNEAU & GIAN DOMENICO SORARU (France/Italy)	
BaTiO_3 Preparation by Reaction of TiO_2 with $\text{Ba}(\text{OH})_2$	35
G. PFAFF (FRG)	
Highly Textured Thick Layers of YBCO Superconductor	41
F. GUERIN, F. LAINEE & J. MASSOL (France)	
Description and Role in High-temperature Deformation of Grain Boundaries in α -Alumina Ceramics	47
L. PRIESTER & S. LARTIGUE (France)	
Modified CVD of Nanoscale Structures in and EVD of Thin Layers on Porous Ceramic Membranes	59
L. G. J. de HAART, Y. S. LIN, K. J. de VRIES & A. J. BURGGRAAF (The Netherlands)	

Number 2

Microstructure and Mechanical Properties of β' - $\text{Si}_3\text{Al}_5\text{O}_3\text{N}_5$ Ceramics	71
E. KOKMEIJER, G. DE WITH & R. METSELAAR (The Netherlands)	
Kinetics of Capillary Extraction of Organic Vehicle from Ceramic Bodies. Part I: Flow in Porous Media	81
Y. BAO & J. R. G. EVANS (UK)	
Kinetics of Capillary Extraction of Organic Vehicle from Ceramic Bodies. Part II: Partitioning between Porous Media	95
Y. BAO & J. R. G. EVANS (UK)	
Hydrothermal Preparation of Barium Titanate from Barium-Titanium Acetate Gel Precursors	107
DETLEV HENNINGS, GÖTZ ROSENSTEIN & HERBERT SCHREINEMACHER (Germany)	
Effect of Dopants on the Crystallite Growth of Superfine Zirconia Powder	117
J. L. SHI, Z. X. LIN & T. S. YEN (People's Republic of China)	
Wear and Strength of Mg-PSZ, Worn on Hardened Steel	123
P. H. J. VAN DEN BERG & G. DE WITH (The Netherlands)	

Number 3

Phase Relations in the Ti–Si–C System	135
W. J. J. WAKELKAMP, F. J. J. VAN LOO & R. METSELAAR (The Netherlands)	
The Si–Al–O–N System at Temperatures of 1700–1775°C	141
BILL BERGMAN, THOMMY EKSTRÖM & ANDERS MICKSKI (Sweden)	
Synthesis of Silicon Nitride Powder by Gas-phase Reaction	153
JÁN JANIGA, KIM PAK SIN & VILIAM FIGUSCH (CSFR)	
Formation, Crystallisation and Oxidation of Selected Glasses in the Y–Si–Al–O–N System	161
C. O'MEARA, G. L. DUNLOP & R. POMPE (Sweden)	
Thermal Decomposition of Freeze-dried Complex Acetates of Iron, Nickel and Zinc, and Structural Characterization of Products	171
H. LANGBEIN, C. MICHALK, K. KNESE & P. EICHHORN (FRG)	
Phase Transformation in Al–Si–Mg Gels: Effect of Additions of Ti, Ce and Zr	177
A. V. GALAKHOV & V. YA. SHEVCHENKO (USSR)	
The Effect of Manganese Doping on the Mechanical Behavior of Cordierite Glass-Ceramics.	181
YU. V. BASCHENKO, S. M. BARINOV, V. YA. SHEVCHENKO &	
R. YA. HODAKOVSKAYA (USSR)	
Determination of Preferred Orientation Textures in Al_2O_3 Ceramics	187
A. BÖCKER, H. G. BROKMEIER & H. J. BUNGE (FRG)	

Number 4

Editorial	195
F. THEVENOT	
Nitrides and Oxynitrides: Preparation, Crystal Chemistry and Properties	197
ROGER MARCHAND, YVES LAURENT, JEAN GUYADER,	
PAUL L'HARIDON & PATRICK VERDIER (France)	
Nanometric Si/C/N Composite Powders: Laser Synthesis and IR Characterization	215
M. CAUCHETIER, O. CROIX, M. LUCE, M. I. BARATON, T. MERLE &	
P. QUINTARD (France)	
Pyrolysis of Polyvinylsilazane Precursors to Silicon Carbonitride	221
A. LAVEDRINE, D. BAHLOUL, P. GOURSAT, N. CHOONG KWET YIVE,	
R. CORRIU, D. LECLERQ, H. MUTIN & A. VIOUX (France)	
Colloidal Dispersion of Alumina–Carbon Homogeneous Mixtures for Carbothermal Synthesis of AlN.	229
M. P. CORRAL, R. MORENO, J. REQUENA, J. S. MOYA & R. MARTÍNEZ (Spain)	
Proposal of a Composition Model for Commercial AlN Powders	233
E. PONTIEU, P. GRANGE, B. DELMON, L. LONNOY, L. LECLERCQ,	
R. BECHARA & J. GRIMBLOT (Belgium/France)	
Growth of Aluminium Nitride Crystal Under a Nitrogen Transferred Arc Plasma.	243
H. AGEORGES, CHANG KUN, S. MEGY, E. MEILLOT, A. SANON &	
J. M. BARONNET (France)	
Organometallic Chemical Vapour Deposition in the Al–O–N System	251
B. ASPAR, B. ARMAS, C. COMBESCURE & D. THENEGAL (France)	
Alumina- γ -Aluminum Oxynitride Composites from Alumina Nitrided by Ammonia	257
J. SAPPEI, D. GOEURIOT, F. THEVENOT, Y. LAURENT, J. GUYADER &	
P. L'HARIDON (France)	

Number 5

Titanium Carbonitride-Zirconia Composites: Formation and Characterization E. BARBIER & F. THEVENOT (France)	263
Thermal Conductivity of SiC-AlN Ceramic Materials MARTINE LANDON & FRANÇOIS THEVENOT (France)	271
Oxidation Behavior of SiC-AlN Ceramic Materials M. LANDON, P. GOEURIOT & F. THEVENOT (France)	279
Reactivity in Oxygen of a HIPed Zirconium Nitride Material. N. ALEXANDRE & M. DESMAISON-BRUT (France)	285
Oxidation Stages of Aluminium Nitride Thin Films Obtained by Plasma-enhanced Chemical Vapour Deposition (PECVD) N. AZEMA, J. DURAND, R. BERJOAN, C. DUPUY & L. COT (France)	291
Nitrogen Self-Diffusion in Titanium Nitride Single Crystals and Polycrystals F. ANGLEZIO-ABAUTRET, B. PELLISSIER, M. MILOCHE & P. EVENO (France)	299
Mechanical Properties of Silicon Nitride-SiC Platelet Composites M. POORTEMAN, P. DESCAMPS, S. SAKAGUCHI, F. CAMBIER (Belgium), E. GILBART, F. L. RILEY & R. J. BROOK (UK)	305
Creep and Microstructure of TiC Particulate Si_3N_4 -based Composites F. PENI, J. CRAMPON, R. DUCLOS & B. CALES (France)	311
The Direct Bonding Between AlN Ceramics and CaO-doped Tungsten ROLAND QUERIAUD, PIERRE LEFORT & MICHEL BILLY (France)	319

Number 6

Editorial	327
Joining Ceramics before Firing by Ultrasonic Welding H. RASHID, K. N. HUNT & J. R. G. EVANS (UK)	329
Ultrasonic Monitoring of Slip Casting Kinetics of Silicon Nitride Ceramic S. APPLETON, D. A. HUTCHINS & M. H. LEWIS (UK)	339
The Production of Titanium Nitride by the Carbothermal Nitridation of Titanium Dioxide Powder WEN-YU LI & F. L. RILEY (UK)	345
Interrelation among Flaw Resistance, K^R -Curve Behavior and Thermal Shock Strength Degradation in Ceramics. I. Theoretical Considerations H. E. LUTZ & M. V. SWAIN (Australia)	355
Interrelation among Flaw Resistance, K^R -Curve Behavior and Thermal Shock Strength Degradation in Ceramics. II. Experiment H. E. LUTZ & M. V. SWAIN (Australia)	365
The Formation of Phases in the AlN-rich Corner of the Si-Al-O-N System P. J. CANNARD, THOMMY EKSTRÖM & R. J. D. TILLEY (UK/Sweden)	375
Thermal Evolution of Fe_2O_3 - TiO_2 Sol-Gel Thin Films P. COLOMBO, M. GUGLIELMI & S. ENZO (Italy)	383
Contributor Index	389
Contents of Volume 8	391