

Contents of Volume 5

Number 1

Editorial	1
<i>State of the Art</i> —Hexagonal Boron Nitride: Fabrication, Properties and Applications A. LIPP, K. A. SCHWETZ & K. HUNOLD (FRG)	3
The Control of Morphology in Silicon Nitride Powder Prepared from Rice Husk I. A. RAHMAN & F. L. RILEY (UK)	11
Sintering and Characterization of Al ₂ O ₃ -TiB ₂ Composites ISAO KIMURA, NORIYASU HOTTA, YUKIO HIRAOKA, NATSUKAZE SAITO & YUJI YOKOTA (Japan)	23
Low-shrinkage Reaction-bonded Alumina NILS CLAUSSEN, TUYEN LE & SUXING WU (FRG)	29
The Effect of Surface Transformation on the Wear Behaviour of Zirconia TZP Ceramics I. BIRKBY, P. HARRISON & R. STEVENS (UK)	37
Calcium Phosphate Glasses and Glass-ceramics for Medical Applications F. DE MESTRAL & R. A. L. DREW (Canada)	47
Chemical Reaction Engineering Aspects of a Rotary Reactor for Carbothermal Synthesis of SiC F. K. VAN DIJEN & R. METSELAAR (The Netherlands)	55
The Use of Modulated Pressure in Ceramic Injection Moulding J. G. ZHANG, M. J. EDIRISINGHE & J. R. G. EVANS (UK)	63

Number 2

Editorial	73
<i>State of the Art</i> —Stuijts Memorial Lecture 1989: The Mastery of Microstructure R. J. BROOK (FRG)	75
Demonstration of Grain Growth Induced Microcracking and its Role in the Electrical Response of YBa ₂ Cu ₃ O _{7-δ} D. S. SMITH, S. SUASMORO & C. GAULT (France)	81
Resistance Measurements in Thick Films of YBa ₂ Cu ₃ O _x in the Temperature Range Between 25 and 860°C . F. W. GIACOBBE (USA)	87
Reactions in the CaO-Cs ₂ O-Al ₂ O ₃ System at 900°C JOHAN A. M. VAN HOEK, FRANS J. J. VAN LOO, LODEWIJK R. WOLFF & RUDI METSELAAR (The Netherlands)	93
Studies on Phase Distribution in (O' + β')-Sialon Composites W. Y. SUN, W. L. LI & D. S. YAN (T. S. YEN) (People's Republic of China)	99

Sintering and Properties of Silicon Nitride Densified with Liquids in the System MgO–AlN–SiO ₂ . P. K. DAS & J. MUKERJI (India)	105
Sintering of Amorphous Polymer-Derived Si, N and C Containing Composite Powders RALF RIEDEL, MARTIN SEHER & GERD BECKER (FRG)	113
Oxidation Behavior of SiC Whisker Reinforced Mullite (–ZrO ₂) Composites H. Y. LIU, K.-L. WEISSKOPF, M. J. HOFFMANN & G. PETZOW (FRG)	123
Densification of Ceramics Containing Entrapped Gases SUK-JOONG L. KANG & KYUNG J. YOON (Korea)	135
<i>Number 3</i>	
Editorial	141
<i>State of the Art</i> —Aluminum Oxynitride Spinel: A Review NORMAND D. CORBIN (USA)	143
Effects of Surface Purification on the Properties of Aqueous Silicon Nitride Suspensions HEINZ STADELMANN, GÜNTER PETZOW & PETER GREIL (FRG)	155
Predicting the Viscosity of Ceramic Injection Moulding Suspensions T. ZHANG & J. R. G. EVANS (UK)	165
Electrical Properties and Defect Structure of Barium Metatitanate within the p-Type Regime J. NOWOTNY & M. REKAS (FRG)	173
Sintering and Dielectric Properties of Single-Phase Pb(Mg _{1/3} Nb _{2/3})O ₃ –PbTiO ₃ K. KATAYAMA, M. ABE, T. AKIBA & H. YANAGIDA (Japan)	183
Yttria- and Ceria-stabilized Tetragonal Zirconia Polycrystals (Y-TZP, Ce-TZP) Reinforced with Al ₂ O ₃ Platelets KARL-HEINZ HEUSSNER & NILS CLAUSSEN (FRG)	193
Tensile and Compressive Creep Characteristics from Bending Tests: Application to SiC–SiC Composites FRANÇOIS ABBÉ, RÉGIS CARIN & JEAN-LOUIS CHERMANT (France)	201
<i>Number 4</i>	
Editorial	207
Sol–Gel Coating of Silicon Nitride with Mg–Al Oxide Sintering Aid M. KULIG, W. OROSCHIN & P. GREIL (FRG)	209
Oxidation of Silicon by Water R. G. STEPHEN & F. L. RILEY (UK)	219
Tribological and Interfacial Phenomena in Al ₂ O ₃ /SiC and SiC/SiC Couples at High Temperature P. BOCH, F. PLATON & G. KAPELSKI (France)	223
Abrasive Wear of Ceramic–Matrix Composites DIETMAR HOLZ, ROLF JANSSEN, KLAUS FRIEDRICH & NILS CLAUSSEN (FRG)	229
Non-Linearity in Rare Earth Doped Zinc Oxide Varistor Prepared by Flash Combustion Method P. M. VIPIN, V. V. SANJAYNATH, H. K. VARMA, K. G. K. WARRIER & A. D. DAMODARAN (India)	233

High Breakdown Voltage ZnO Varistors Obtained by Pressureless Sintering	237
P. Q. MANTAS & J. L. BAPTISTA (Portugal)	
The Microstructure and Composition of Oxide Films Formed during High Temperature Oxidation of a Sintered Silicon Nitride	245
P. ANDREWS & F. L. RILEY (UK)	
Carbothermal Reduction and Nitriding of TiO ₂	257
T. LIČKO, V. FIGUSCH & J. PÚCHYOVÁ (Czechoslovakia)	
Announcement.	267

Number 5

The Effect of Iron Diffusion into a Glass-Ceramic Coating on Mild Steel—a Bulk Glass Simulation	269
F. SUN & D. HOLLAND (UK)	
Solid Combustion Synthesis of Ti ₃ SiC ₂	283
R. PAMPUCH, J. LIS, L. STOBIERSKI & M. TYMKIEWICZ (Poland)	
Characterization of a New Ternary Ce-Y-Tetragonal Zirconia	289
B. BASTIDE, P. CANALE & P. ODIER (France)	
Preparation of Li ₂ ZrO ₃ by Powder Reaction and Hydrolysis of Metal Alkoxides	295
C. ALVANI, L. BRUZZI, S. CASADIO, V. RONDINELLA, A. TUCCI & E. H. TOSCANO (Italy)	
Thermal Properties of Ceramic Injection Moulding Suspensions in the Liquid and Solid States	303
T. ZHANG, J. R. G. EVANS & K. K. DUTTA (UK)	
Sintering of Si ₃ N ₄ with Y ₂ O ₃ and Al ₂ O ₃ Added by Coprecipitation	311
JI-SOON KIM, HELMUT SCHUBERT & GÜNTER PETZOW (FRG)	
Reinforcement of Silicon Nitride Ceramics by β-Si ₃ N ₄ Whiskers	321
P. ŠAJGALÍK & J. DUSZA (Czechoslovakia)	
Chemical Stability of Cordierite–ZrO ₂ Composites	327
NAHUM A. TRAVITZKY & NILS CLAUSSEN (FRG)	

Number 6

Strength of Structural Ceramics after Exposure to Sodium Sulfate.	333
JEFFREY J. SWAB & GARY L. LEATHERMAN (USA)	
Thermomechanical Properties and Oxidation Resistance of Zirconia CVD-Matrix Composites: 1—Mechanical Behavior	341
J. MINET, F. LANGLAIS, J. M. QUENISSET & R. NASLAIN (France)	
Preparation and Sintering Behaviour of Ultrafine Mn/Fe and Fe/Co Mixed Oxides	357
J. M. JIMÉNEZ-MATEOS, J. MORALES & J. L. TIRADO (Spain)	
Thermal Shock Resistance of Ceramic Materials in Melt Immersion Tests	365
W. DIENST, H. SCHOLZ & H. ZIMMERMANN (FRG)	
Rheology of Aqueous Silicon Nitride Suspensions	371
ALWIN NAGEL, GÜNTER PETZOW & PETER GREIL (FRG)	

On the Fracture Toughness of Polycrystalline Alumina Measured by SEPB Method	379
TOSHIHIKO NISHIDA, TAKESHI SHIONO & TOMOZO NISHIKAWA (Japan)	
The Removal of Carbon or Carbon Residues from Ceramic Powders or Greenware with Ammonia	385
F. K. VAN DIJEN & J. PLUIJMAKERS (The Netherlands)	