

Table of Contents

Preparation and Analysis of $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_7$ Thin Films J. Geerk, Q. Li, G. Linker, O. Meyer and X.X. Xi	1
Crystal Growth and Characterization of Bi-Sr-Ca-Cu-O Superconductors S. Durcok, P. Honskus, J. Hejtmánek and E. Pollert	5
Methods of Acoustic Microscopy Investigation of Individual Crystallites and Microstructure of High-Temperature Superconductors M.A. Bukhny, L.A. Chernosatonskii, A.N. Khodan and Y.M. Soifer	7
Acoustic Microscopy Studies on Degradation of the Microstructure of HTSC-Materials M.A. Bukhny, L.A. Chernosatonskii and R.G. Mayev	9
New Incommensurate Crystals: $\text{Li}_2\text{B}_4\text{O}_7$ and $\text{Bi}_{2.2}\text{Sr}_{1.8}\text{CaCu}_2\text{O}_{8+x}$ V.V. Zaretskii and V.A. Zaretskaya-Eliashberg	11
Growth of High-T_c Superconductor Single Crystals and Investigation of the Effect of Thermobaric Treatment in an Oxygen Atmosphere on their Critical Temperature G.A. Emelchenko, N.V. Abrosimov, A.V. Bazhenov, V.M. Masalov, A.A. Zhokhov, P.A. Kononovich, G.Y. Logvenov and S.S. Khasanov	13
Colloidal Chemical Synthesis of the Ceramic Powder for HTSC V.A. Fotiev, O.M. Rozental and G.A. Sereda	15
A Preparation Method for $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_x$ Using Reducing Sintering Conditions H. Boerner, M. Wurlitzer, H.C. Semmelhack, B. Lippold, J. Horn, M. Kroetzsch, U. Boehnke and G. Kloess	17
The Influence of Twin Structure on Superconducting Properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Ceramics O.N. Ivanov and S.A. Gridnev	19
Crystal Growth and Twinning Structure of LaGaO_3 Single Crystals J. Fink-Finowicki, M. Berkowski and A. Pajaczkowska	21
The Effect of the Synthesis Temperature on the Phase Composition and Electrophysical Properties of Superconducting Ceramics of the Composition $\text{Pb}_{0.3}\text{Bi}_{1.8}\text{Sr}_{1.9}\text{Ca}_2\text{Cu}_3\text{O}_w$ V.S. Kravchenko, O.G. Potapova, A.I. Romanenko and O.V. Razlevinskaya	23
Chemical Modification of High-T_c Superconducting $\text{EuBa}_2\text{Cu}_3\text{O}_{7-x}$ by Tin: Synthesis, Structure, and Gamma-Resonance Investigation A.V. Dubovitskii, N.D. Kushch, M.K. Makova, A.T. Mailybaev, V.A. Merzhanov, S.I. Pesotskii, N.V. Kireev, E.F. Makarov, R.A. Stukan, I.D. Datt, R.P. Oserov and D.M. Shashkin	25
The Effect of the Heat Treatment on the Structure and Magnet Properties of (BiPB)-Sr-Ca-Cu-O Ceramics M. Timko, J. Miskuf, K. Csach, J. Kovac, A. Zentko and V. Kavecanský	27
Role of the Medium Range Order in the Formation of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Films Crystal Structure V.D. Okunev and Z.A. Samoilenko	29
Search for New High-T_c Superconductors among Oxohalides and Oxochalcogenides of Bismuth and Copper with Layered Structure B.A. Popovkin, V.A. Dolgikh and L.N. Kholodkovskaya	31
Crystallochemical Aspects of Searching for New High-T_c Copper-Containing Oxides L.M. Kovba, E.V. Antipov, A.L. Kharlanov, N.R. Khasanova and E.M. Kopnin	33
Specific $\text{YBa}_2\text{Cu}_3\text{O}_x$-Ceramics Obtained with Using the Mechanical Activation Y.V. Kolbanev, A.V. Shlahtina, L.G. Mamsurova, N.N. Oleinikov and L.G. Scherbakova	35
Superconducting Copper Oxides of n-Type L.A. Kvichko, L.A. Kotok, T.F. Alyokhina, P.N. Mikheyenko, R.F. Ramakayeva and E.K. Saliichuk	37
Preparation Peculiarities of Monophase HTSC in the System Bi-Sr-Ca-Cu-O T.G. Deineka, R.Y. Itskovich, V.M. Puzikov, G.K. Rozenberg, T.S. Teplitskaya and N.N. Fedorova	41
Influence of the Preparation Technique on the Superconductivity of Bi-Sr-Ca-Cu-O and Pb-Bi-Sr-Ca-Cu-O Systems J. Burianek, P. Stastny, V. Sechovský and J. Sebek	43
Fabrication of Textured Superconductor Ceramics W. Matz, K. Rudolph, U. Engelmann and W. Anwand	45

Oxygen Rearrangement over the Cu1-O4 Chains in the Orthorhombic YBa₂Cu₃O_{6+x} Compound at Low Temperatures	
L.G. Mamsurova, K.S. Pigalskiy, V.P. Sakun, A.I. Shushin and L.G. Scherbakova	47
High-Temperature Superconductors from Metal Alkoxides	
E.P. Turevskaya, M.I. Yanovskaya, N.Y. Turova, A.K. Kochetov and Y.N. Venevtsev	49
The Change of Local Symmetry and Suppression of Superconductivity in YBa₂(Cu_{1-x}Fe_x)₃O_{7+x} System	
E.D. Politova, G.M. Kaleva, M.V. Kudinova, Y.E. Roginskaya, B.S. Galyamov, G.V. Lopuchova, R.R. Schifrina, S.G. Prutchenko, F.H. Chibirova and Y.N. Venevtsev	51
Diffraction Study of Ceramics Y-Ba-Cu-O (Cl, I, Br)	
I.V. Golosovsky, V.P. Plakhty, A.E. Sovestnov, E.I. Fedorova and V.P. Harchenkov	53
The Temperature Dependencies of the Structural Parameters of the High-T_c 1-2-3 Type Superconductor Based on Samarium Zero-Matrix	
G.A. Krutov, V.A. Kudryshev, A.I. Kurbakov, A.L. Malyshev, A.V. Matveev, B.P. Toperverg, V.A. Trunov, V.A. Ulyanov, V.N. Gurin, A.A. Nechitaylov, A.P. Nechitaylov, L.A. Aslanov, V.V. Chernyshev, K. Ullakko and P. Hiismaki	55
The Electronic Two-Dimensional Short-Range Ordering in YBa₂Cu₃O_{7-x}	
V.P. Plakhty, A.B. Stratilatov, V.I. Fedorov, Y.P. Chernenkov, G.A. Emelchenko and V.A. Tatarchenko	57
Solution Growth and Characterization of Superconducting Single Crystals Bi₂Sr₂CaCu₂O_x	
O.V. Alexandrov, Y.K. Antonov, Y.J. Gorina, G.A. Kaljunaia, K.V. Kiseleva, V.J. Kfitorov, S.R. Oktiabrskii and V.J. Polsskii	59
SIMS and AES Characterisation of Superconducting YBa₂Cu₃O_{7-s} Films Prepared by LPVD	
S. Oswald, J. Klosowski, G. Kessler and M. Panzner	61
The Preparation of YBa₂Cu₃O_{7-x} Powders Using Solution Techniques	
F. Schlenkrich, K. Fischer, W. Wilde, A. Teresiak and G. Leitner	63
Preparation of High-T_c Superconducting Thin Films by DC Triode Sputtering	
T. Franke, G. Schönfelder, W. Bretschneider, H. Helms, U. Zimmer, A. Ehms and J. Erben	65
Growth and Characterization of YBa₂Cu₃O_{7-x} Single Crystals	
W. Gawalek, D. Linzen, K. Fischer and R. Hergt	67
Neutron Powder Diffraction Studies of Mixed Ce_(1-x)La_x¹¹B₆ and Isotope Substituted ^{152.76}Smb₆	
A.L. Malyshev, V.A. Trounov, D.Y. Chernyshov, M.M. Korsukova, V.N. Gurin, O. Antson and P. Hiismaki	69
Crystal Chemistry of High-Temperature Superconductors	
E. Pollert	71
Phase Stability, Non-Stoichiometry and their Influence on Structure and Properties in the YBaCuO System	
G. Krabbes, U. Wiesner, W. Bieger, M. Ritschel and G. Kunze	75
High Temperature X-Ray Study of Phases BaCuO₂ and Y₂BaCuO₅	
I.N. Dubrovina, R.G. Zakharov, E.G. Kostitsyn, A.V. Antonov and V.F. Balakirev	79
Thermogravimetric and Structural Investigation of Pr_xY_{1-x}Ba₂Cu₃O_{7-y}	
J. Horn, H.C. Semmelhack, H. Boerner, B. Lippold, U. Boehnke, M. Wurlitzer, M. Kroetzsch and J. Herrmann	81
Monocrystalline Phases in R-Ba-Cu-O and Bi-Sr-Ca-Cu-O Systems	
L.I. Leonyuk, E.L. Belokoneva, N.I. Leonyuk, V.V. Moshchalkov and A.A. Zhukov	83
An Electrochemical Study of High-T_c Superconductors and Related Materials	
N.F. Zakharchuk, V.E. Fedorov, V.S. Kravchenko, A.I. Romanenko, A.A. Kamarzin and N.S. Borisova	85
Synthesis of Bismuth-Containing High-T_c Ceramics	
V.S. Kravchenko, Y.S. Zolotova, O.G. Potapova, O.V. Raslevinskaya and A.I. Romanenko	87
On the Coexistence of the Superconducting Phases in (Bi,Pb)SrCaCuO Ceramics	
P. Vasek, P. Svoboda and V. Plechacek	89
The Inhomogeneity of Phase Distribution in Bi-Sr-Ca-Cu-O Ceramics	
H. Sichova, L. Dobiasova, J. Burianek and J. Sebek	91
Special Effect of Zirconium on the Crystal Structure and Superconducting Properties of RBa₂Cu₃O_{7-x}	
R.V. Lutsiv, R.E. Hladyshevsky, A.V. Nosan and V.V. Tkachuk	93

Thermoradiation Actions on $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Ceramics E.M. Gasanov, E.M. Ibragimova, K.G. Chan, O.Y. Polyak, R.K. Tukhvatulin, E.S. Flitsiyan and M. Kalanov	95
Superconductivity above 100 K in Sb-Doped Samples from Bi-Pb-Sr-Ca-Cu-O System K. Konstantinov, S. Karbanov and V. Vassilev	97
$\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Studied by Mechanical Damping and Light Microscopy D. Klimm, U. Hartung, G. Klöss, P. Hofmann and W. Reichelt	99
Preparing and Characterization of Bi-Ca-Sr-Cu-O Superconductors U.C. Boehnke, H. Börner, H. Choi, J. Hermann, Y.G. Kang, B. Lippold and M. Wurlitzer	101
Evolution of the Microstructure in the Solid Solution System of $\text{Eu}_{1+x}\text{Ba}_{2-x}\text{Cu}_3\text{O}_{7-y}$ K. Csach, P. Diko, J. Miskuf and V. Kavecanský	103
Contribution to Studing the Transformation of Tetragonal to Orthorhombic Phase in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ N. Hudakova and P. Diko	105
Investigation of Sorption-Desorption of Oxygen on $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ K. Teske	107
Thermochemical Investigations in the Systems Y-Cu-O and Ba-Cu-O U. Wiesner, M. Ritschel and G. Krabbes	109
Spectrophotometric Characterization of Thin YBaCuO-Layers by Means of Multivariate Calibration O. Grossmann	111
AES - Investigations in the Y-Ba-Cu-O-System C. Ritschel and M. Ritschel	113
Lattice and Electron Components of Specific Heat of Mo_6Se_8 and Mo_6Te_8 Y.F. Minenkov, E.B. Amitin, V.N. Naumov, I.E. Paukov and G. Krabbes	115
Towards a Theoretical Understanding of the High-T_c Superconducting Materials P. Fulde	117
Non-Trivial Valence States in High-T_c Superconductors E.N. Ezakovich and M.L. Khidekel	121
Correlated Electronic Structure and Non-Standard Electron-Lattice Interaction in High-T_c Superconductors H. Eschrig and S.L. Drechsler	125
Temperature and Field Dependence of Critical Current of High T_c Superconductors W.Y. Guan	129
Critical Currents and Magnetic Susceptibility of Granular Superconductors A. Gladun, P. Verges, G. Fuchs and R. Mueller	133
Low Field Magnetic Properties of High-T_c Superconductors Y.H. Xu	137
Resonating-Valence-Bond States in Doped Square-Lattice Antiferromagnets J. Richter	141
Phenomenological Models of the High-T_c Superconductors Microwave Surface Resistance O.G. Vendik and A.Y. Popov	143
Electrical Resistivity in the Strong-Correlation Limit of the Emery Model D. Ihle, M. Kasner and N.M. Plakida	145
An X-Ray Study of the Influence of the Stoichiometric Parameters on the Electronic Structure of High T_c Superconductors S.B. Erenburg, N.V. Bausk, L.N. Mazalov, V.S. Kravchenko, O.V. Raslevinskaja, Y.B. Amitin, S.A. Gromiliv and A.M. Umarji	147
Anharmonic Modes and High Temperature Superconductors A.P. Zhernov and T.A. Mamedov	149
Internal Friction and Young's Modulus in Bismuth Superconducting Ceramics R. Barczynski, M. Gazda, B. Kusz, L. Murawski, O. Gzowski, I. Davoli and S. Stizza	151
Characterization and Superconducting Properties of Bi(Pb)-Sr-Ca-Cu-O Ceramics G. Baldamus, S. Eckert and V. Hilarius	153
Analysis of Small Hysteresis Loops of Yttrium Based Compounds J. Sosnowski, J. Raabe, E. Bobryk, A. Gilewski and J. Warchulska	155
Josephson Effects in High-T_c Materials B.A. Aminov	157

Elastic and Anelastic Properties of Y-Ba-Cu-O Ceramics in the Temperature Range 6-340 K	
P. Pal-Val, V.D. Natsik, J. Engert, H.J. Kaufmann, W. Matz and K. Rudolph	159
Radiowave Studies of High-T_c Superconductors	
N.T. Cherpak and A.Y. Kirichenko	161
Interaction of $\text{Bi}_{1.7}\text{Pb}_{0.3}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_Y$ with Silica	
P.B. Abramyan, A.S. Kuzanyan, T.M. Paronyan, I.M. Piroeva, V.T. Tatoyan and S.S. Terzyan	163
Variations in Properties of Superconducting Yttria Ceramics by Heating at High Pressure	
P. Kisly, T. Prikhna, V. Moshchil, V. Mel'nikov, N. Tulina, P. Nagorny and V. Kovylyayev	165
Adhesion of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Films on MgO, ZrO_2 and SrTiO_3 Substrates	
S.V. Stolyarova, A.A. Simanovskis, J.E. Maniks, E.V. Pechen and S.I. Krasnosvobodtsev	167
Structure Changes in Thermal and Fast Neutron Irradiated $\text{YBa}_2\text{Cu}_3\text{O}_7$ and $\text{GdBa}_2\text{Cu}_3\text{O}_7$	
M. Brezgunov, S. Belogurov, A. Petrov, A. Karpov, V. Kovalov and I. Kudrenitskis	169
Magnetization Behavior of some High-T_c Superconductors	
P. Nozar, V. Sechovský, L. Havela, J. Burianek and P. Stastny	171
Josephson Effect on High Temperature Superconductors	
E. Heinz, M. Siegel and P. Seidel	173
Temperature Dependence of Tunneling Structures	
P. Seidel and T. Büschel	175
Some Electrical and Magnetic Properties of YBaCuO Superconductors Doped with Cd	
G. Serfözö, L.F. Kiss, E. Zsoldos, J. Toth, S. Sandor, L. Papadimitru, O. Valassiadis, L. Dózsa, G. Hilscher and M. Forsthuber	177
Magnetic Properties of Different Compounds in the Y-Ba-Cu-O System	
K. Rudolph, W. Matz, L. Jahn and R. Scholl	179
Thermal Conductivity of High-T_c-YBCO Ceramics in Magnetic Fields up to 10 Tesla	
T. Kopte and E. Hegenbarth	181
On Correlation between High Temperature Superconductivity and Ferroelectricity	
Y.N. Venevstev and V.V. Bogatko	183
Investigation of Spin Correlations in La_2CuO_4 by Polarized Neutrons	
A.G. Gukasov, S.Y. Kokovin, V.P. Plakhty, I.A. Zobkalo, D.I. Zhigunov and A.A. Ignatenko	187
Hall Measurements on Nonstoichiometric Samples of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$	
R. Hedderich, M. Dybiec, N. Koppetzki, G. Ritzschel, M. Siegel, F. Schmidt, K.H. Berthel and G. Fuchs	189
Magnetic Field Dependence of Critical Current for Silver Sheathed $\text{YBa}_2\text{Cu}_3\text{O}_7$ Wires	
G. Fuchs, A. Gladun, P. Mueller, M. Schubert, C. Rodig, M. Dubiec and N. Koppetzki	193
Time Evolution of Meissner Effect in High-T_c Superconductors	
E.G. Valiulin, V.E. Startsev and A.S. Shcherbakov	195
Thermodynamics of Melted Flux Liquids	
E.I. Kornilov, A.A. Litvin and V.B. Priezzhev	197
On the Measurement of Long-Time Relaxation of the Magnetic Moment of Ceramics $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$	
U.V. Obukhov	199
Magnetic Property Peculiarities of High-T_c Superconductors $\text{REBa}_2\text{Cu}_3\text{O}_{7-x}$ (RE = Gd, Ho, Er) in Normal and Mixed States	
A.S. Shcherbakov, V.E. Startsev, E.G. Valiulin and A. Zaleski	203
Magnetic Behaviour and Electrical Resistivity Study of $\text{Y}_{1-x}\text{Zr}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-y}$ and $\text{Y}_{1-2x}\text{Zr}_x\text{Eu}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-y}$ Superconducting Oxides	
V. Pop and E. Burzo	205
Software for Computer-Aided Systems to Perform Experiments in the Field of High-T_c Superconductivity	
E.I. Litvinenko and A.G. Likhachev	207
Elastic and Anelstaic Properties of High-Temperature Superconductors	
S.A. Gridnev and O.M. Ivanov	211
Properties of Tubular $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Magnetic Shields: A Critical-State Model	
R. Müller, G. Fuchs, S. Rohr, G. Eckart, B.I. Kamenezki, I.S. Lappo, P. Verges, C. Frenzel and A. Gladun	213

Manufacturing of YBaCuO Composite Targets and Preparation of Thin Films by Magnetron Sputtering	
M. Schanz, B. Cord, M. Scherer and D. Peuckert	215
Deposition of High-T_c Superconducting Thin Films by Reactive Magnetron Sputtering of Alloy Targets	
L. Illgen, M. Manzel, K. Steenbeck and E. Steinbeiss	221
Superconducting Thin Films Formed by Ion Beam Mixing	
B. Rauschenbach and K. Hohmuth	223
Preparation of Superconducting Ceramics with Reproducible Properties on the Basis of R-Ba-Cu-O and Bi(Pb)-Ca-Sr-Cu-O in the USSR	
V.A. Fotiev, O.M. Rozental and V.F. Balakirev	225
Influence of Substrate Materials on Properties of the High T_c Superconducting Thick Films	
V. Skacel, A. Koller, J. Fiedlerova and K. Hrnecir	227
Plasmo-Chemical Synthesis of Highly-Dispersed Powders of YBa₂Cu₃O_x	
A. Kuzjukevics, J. Vaivads and J. Grabis	229
Thin Film Heterostructures: High-T_c/Solid Electrolyte/Electrode: Fabrication, Properties, Application	
A.T. Matveev, V.F. Gremenok and V.P. Novikov	231
Microstructure and Properties of High-T_c Superconductor Ceramics	
V. Hilarius, D. Bühling and U. Körbl	233
Recrystallization of Superfine and Textured Kinds of Ceramics	
A.M. Kuzei and V.P. Novikov	235
The Influence of the Annealing Atmosphere on the Critical Current Density of YBa₂Cu₃O_x Wires and Thick Films	
K. Fischer, P. Müller, G. Fuchs, M. Schubert, G. Leitner, C. Rodig and A. Teresiak	237
Effect of Process Parameters on the Properties of Plasma Sprayed YBa₂Cu₃O_{7-x} Coatings	
S. Rohr, G. Eckart, U. Schläfer, I. Bächer, A. Teresiak, H. Vinzelberg, R. Müller and L. Schneider	239
Formation and DC-Magnetron Sputtering of the Melted Targets for High-T_c Superconducting Y-Ba-Cu-O System	
V.P. Afanasjev, M.P. Vinokurov, Y.I. Panova, V.B. Pryazhkin and Y.N. Smirnov	241
Ferroelectric Thin Films: Research and Application	
H. Schmitt	243
Preparation and Properties of Ferroelectric Ceramics for Optics	
A. Krumins and A. Sternberg	247
Multilayered Devices of Ferroelectric Ceramics	
K. Uchino	251
Composites of Ferroelectric and Superconductive Ceramics: Synthesis and Diagnostics of Basic Properties	
Z. Peleke, I. Popova, L. Podina, G. Liberts, V. Zauls, A. Gajevskis, E. Birks, A. Sternberg, C. Czurda, M. Wacenovskiy, E. Seidl and H.W. Weber	269
Piezoelectric Ceramics Based on Complex Niobates: Preparation, Properties, Applications	
L.A. Reznichenko, V.A. Chernyshkov, O.N. Razumovskaya and L.N. Shylkina	271
The Use of the Electrooptic Ceramics in Ferroelectric-Semiconductor Structures	
V.P. Afanasjev, E.V. Minina and J.I. Panova	273
PTCR Effect and Ferroelectric Phase Transition	
H. Arndt, C. Kleint, A. Rost and U. Stöpel	275
The Study of Optical and Electrical Properties of Oxide Crystals Irradiated by Electrons and Laser as Components of Multiphase Ceramics Using for Dielectrical Purposes	
E.V. Kabanova, S.N. Kulkov, B.P. Gritzenko and S.V. Smirnov	277
Mechanical and Magnetic Properties of Glassy-Crystalline MeO/SiO₂/Al₂O₃ Systems	
R. Stösser, M. Nofz, R. Brenneis, J. Klein and A. Rericha	279
Electrode Materials Based on Cr₂O₃	
G.D. Milova, A.V. Lukinskikh, V.N. Nekrasov, A.N. Chernov, B.B. Guschin and A.I. Gusev	281
Electronic Conductivity in SiO₂ Films Containing Transition Metal Oxides	
L. Murawski, L. Wicikowski and O. Gzowski	283
Metal-Metal Interactions and Paramagnetic Atoms Distribution in Spinel and Olivine Oxides	
N. Chezhina, N. Bobrysheva and I. Zvereva	285

Temperature Dependence of the Magnetic Permeability and Hysteresis Loop Parameters of Ferrites	
V.P. Miroshkin, Y.A. Popova and A.Y. Yakupova	287
Classical Phosphors as Materials for New Erasable Optical Memory Devices	
E. Krause, U. Braatz and J. Kunsch	289
Ionselective Electrode for Fe³⁺ Based on a Semiconductive Chalcogenide Glass	
S. Hadjinicolova, S. Ecova, V.V. Vassilev and L. Ilcheva	291
Dielectric Properties in the Pseudobinary System Bi₂(Zn_{1/2}Zr_{1/2-x/2}Ti_{x-2}Nb)O₂	
L. Seffner, H.J. Gesemann and M. Ermrich	293
Preparation and Properties of Ferroelectric Ceramic Obtained from Colloidal Phases	
B. Jimenez, L. Del Olmo, J. Mendiola, L. Calzada, L. Pardo and C. Alemany	295
Preparation of Ferroelectric and Piezoelectric Ceramics by Chemical Preparation Techniques	
G. Tomandl	301
Metal Alkoxides - Precursors for Preparation of Complex Molybdates and Tungstates	
M.I. Yanovskaya, I.E. Obvintseva, V.G. Kessler and N.Y. Turova	307
Formal-Kinetic Fundamentals of Colloid Chemical Synthesis of Electron-Conducting Ceramic Materials	
O.M. Rozental, I.V. Kiselev, V.A. Pichugin, A.G. Khismatullin and K.V. Tkachev	309
Contribution to the Phase Diagram of Aluminium Nitride	
H. Vollstädt and H. Recht	311
ISO - and Heteropoly Compounds as New Precursors for Ceramic Materials	
H.J. Lunk, H. Weiner, S. Schönherr and H. Görz	313
Amide-Acid Compounds Inhibitors of Interaction Processes between Aluminium and Phosphate Linking Addition in Ceramic Technology	
N.N. Nurakhmetov, R.S. Erkasov and M.B. Ismailov	315
Plasma Spraying of Graded Metal-Ceramic Coatings	
V. Pilous and J. Musil	317
Phase Equilibrium in the Ag₂Te-Zn System	
V. Vassilev, I. Markova, V. Vachkov, P.P. Petrov and L. Koroleva	319
Preparation of High-Purity Zinc Selenide for Powerful IR-Optics	
E.M. Gavrishchuk and A.Y. Dadanov	321
Monocrystals of MnMoO₄ and Mn₂Mo₃O₇, a Possible Electronic Material	
W. Reichelt, B. Lippold, J. Werner, J. Herrmann and H. Oppermann	323
Thermodynamic Investigations in the System Sn-Ta-O	
W. Bieger, U. Wiesner, M. Ritschel and G. Krabbes	325
Preparation of Piezoelectric ZnO Films by DC and RF Magnetron Sputtering	
R. Kaltöfen, G. Weise and J. Marschner	329
Low Temperature Synthesis Route to Lead Magnesium Niobate	
F. Schlenkrich, U. Schläfer and D. Schläfer	331
Grain Size Control in Semiconducting Ceramics	
U. Jaroč, V. Hilarius, J. Mürbe and D. Bühling	333
Low Temperature Behaviour of Ferroelectrics	
E. Hegenbarth	335
Modelling and Preparation of Multiphase Ceramics for Dielectric Applications	
H.J. Gesemann, A. Schönecker and M. Weihnacht	339
Glassformation in the System Se-Te-Sb	
V. Vassilev, I. Markova-Deneva and S. Alexandroba	343
Structure and Properties of a Boundary Region of p-n Si Bicrystals	
M.E. Kishneva, A.B. Barboy, A.L. Vasiliev, N.A. Kiselev, A.A. Lomov, V.R. Regel, E.A. Stepantsov, A.B. Tovmasyan and A.Y. Tzalenchuk	345
How Universal Are the Glassy States in Ferroelectrics and High-Temperature Superconductors?	
P. Roth and E. Hegenbarth	347
X-Ray Diffraction Investigation of Boride-Nitride Powders	
B. Bondars, V. Kats and J. Grabis	349
X-Ray Diffraction Investigation of Polydisperse Powders	
B. Bondars and I. Lukss	351

Microstructure and Electromechanical Properties of Anisotropic Ferroelectric Ceramics V.Z. Borodin, E.I. Eknadlosyanz, V.A. Doroshenko and E.I. Sitalo	353
On the Influence of Silicon on Microstructure and Electrical Properties of La-Doped BaTiO₃-Ceramics H.P. Abicht, H.T. Langhammer and K.H. Felgner	355
Forming and Investigation of Model Grain Boundaries Structure, Obtained by Solid-Phase Single Crystals Intergrowing E.A. Stepanov and A.L. Vasiliev	357
On Kinetics of Charge Transfer through Zirconia Single Crystal Phase Boundary A.Y. Tzalenchuk, V.R. Regel and E.A. Stepanov	359
Increase of Thermal Conductivity during Sintering of AlN M.A. Kuzenkova, I.P. Fesenko and L.M. Yupko	361
Silver Diffusion at Metallization of Piezoceramics M.V. Slinkina, G.I. Dontsov and V.M. Zhukovsky	363
Laser Sampling in Local Analysis of Nitride Layers I.L. Skryabin, B.K. Zuev and L.E. Kordonsky	365
Crystal Chemical Aspects of Looking for New Oxygen-Octahedral Ferroelectric Materials V.A. Isupov	369
New Electrostrictive Ceramics - Properties and Physical Models N.K. Yushin	375
Study of the Role of Grain Boundaries for Electrical Properties of Semiconducting Electronic Ceramics K. Berndt	379
The Contribution from 90° Domain Wall Displacements to the Piezoelectric and Elastic Constants of the Ferroelectric Ceramics E.I. Bondarenko, V.Y. Topolov and A.V. Turik	383
Semiconducting Oxides in Thick Film Resistors G. Behr, G. Krabbes and K. Fischer	385
Thermodynamical Calculation of the High-Signal Electrostriction J. Von Cierninski	387
Finite Element Modelling of Piezoelectric Composites - Dynamic Behaviour R. Braune, H. Beige and G. Helke	389
Metastable States in Ferroelectrics B.N. Prasolov, V.V. Gorbatenko and S.A. Gridnev	391
Energetic Crystal Chemistry of Mixed Crystals with the Perovskite-Type Structure N.V. Dergunova	393
Condition of Isomorphism in Complex Oxides with Perovskite-Type Structure N.V. Dergunova and G.A. Geguzina	395
Monte-Carlo-Simulation of Vacancy-Impurity-Pairs (VIP) Migration in Dilute Metallic Alloys B. Fritzsche and A. Zehe	397
Modelling of ZnSe CVD P.L. Croupkin	399
Modelling of Dielectric Properties of Ceramic Multiphase Materials for MLC's A. Schönecker, H.J. Gesemann and M. Weihnacht	401
Evaluation of Conjugated Polymers as Materials for Molecular Electronics S. Roth	403
Electronic Structure of Conjugated Polymers G. Lehmann	407
New Aspects in the Redox Chemistry of Conjugated Polymers H.H. Hörhold, M. Helbig, D. Weiss and D. Raabe	411
Laser Induced Electrical Conductivity in Poly(Bis-Alkylthio-Acetylenes) H.K. Roth, H. Gruber and E. Fanghänel	419
Conducting Polymer Composites M. Kryszewski	423
Ladder Polymers with Intrinsic High Conductivity L. Wuckel and J. Fröhner	427

Optical Properties of the Soliton Lattice for Polyacetylene H. Puff and H.W. Streitwolf	431
On the Theory of Highly Conducting Polyacetylene G. Paasch, G. Lehmann and L. Wuckel	433
A Simple Approach for Describing the Optical Properties of Conjugated Polymers H. Hartmann and K. Linsenbarth	435
Study of Spin-Lattice and Spin-Spin Relaxation Times in Crystalline Polyacetylene and in Polyenes A.N. Chuvyrov, L.A. Kosykh and G.I. Yusupova	437
Investigation of Organic Magnetics Obtained on the Basis of Crystalline Polyacetylene A.N. Chuvyrov, L.A. Kosykh and Y.A. Lebedev	439
Generation of Localized Electronic States in Individual Polyenes A.N. Chuvyrov and G.I. Yusupova	441
Preparation of Long Conjugated Polyenes by Chemical Dehydrochlorination of PVC A. Holländer, H. Zimmermann and J. Behnisch	443
Charge Transfer in New Electroactive Polymers-Polyphthalidilidenarylenes O. Selezneva and A. Lachinov	445
Electronic Instability Phenomena in Polydiphenylenephthalide A. Zherebov, A. Lachinov and O. Scaldin	447
A New Highly Conductive State of Polydiphenylenephthalide A. Lachinov and A. Zherebov	449
Studies on Materials with Poly-Peri-Naphthalene Structure M. Schwarzenberg, A. Bartl, J. Fröhner and L. Wuckel	451
XPS and EELS Study of Thermally Structurated Polyacrylnitrile Y.M. Shul'ga, K. Jobst, L. Sawtschenko, A.F. Zueva and O.N. Efimov	453
Interpretation of Impedance Spectroscopic Data for Thermally Structurized Polymers G. Paasch, M. Schwarzenberg, K. Jobst and L. Sawtschenko	455
Characterization of Thermally Structurized Polyacrylonitrile by Electrochemical Impedance Spectroscopy, DC Conductivity, and Esca Measurements M. Schwarzenberg, K. Jobst, L. Sawtschenko and G. Paasch	457
Highly Conducting Pyrocarbon Films and Microreliefs from Film Forming PPV Derivatives D. Raabe, U. Scherf, J. Opfermann, E. Kley and H.H. Hörhold	459
Preparation and Electrochemical Properties of Conjugated Polymers O.N. Efimov	463
Thermally Structured Polymers: Synthesis, Characterization and Electrochemical Properties K. Jobst, L. Sawtschenko and M. Schwarzenberg	467
Electrochemical and <i>in-Situ</i> FTIR Characterization of Polypyrroles P. Novák and W. Vielstich	471
Electrochemical and <i>in-Situ</i> EPR Studies on a Conjugated Material with Polyacenic Structure M. Schwarzenberg, A. Bartl, J. Fröhner and L. Wuckel	473
Charge Storage in Conjugated Organic Compounds H.G. Doege, A. Bartl, J. Fröhner and G. Domschke	475
Investigation of Poly-(p-Phenylene) Obtained in Electrochemical Oxidation of Benzene in the BuPyCl-AlCl₃ Melt L.M. Goldenberg, A.E. Pelekh, V.I. Krinichnyi, O.S. Roshupkina, A.F. Zueva, R.N. Lyubovskaya and O.N. Efimov	477
Molecular Dynamics and Decomposition of the Ion-Radical Salt Poly-(p-Phenylene).BF₄ V.G. Shteinberg, B.A. Shumm, A.F. Zueva, L.N. Erofeev and O.N. Efimov	479
Electrochemical Doping of Conjugated Polymer Powders Assisted by Redox Mediators A.F. Zueva, Y.V. Geletii, V.N. Tsarev, O.N. Efimov, A.P. Zuev and E.P. Krinichnaya	481
Electrochemical Studies of Thermally Structurized Pan L. Sawtschenko, K. Jobst, M. Schwarzenberg, H. Eichler and A.F. Zueva	483
Conducting Polymers as the Additives to the Positive Electrode of Lead-Acid Battery B.Z. Lubentsov, Y.H. Samovarov, G.I. Zvereva and M.L. Khidekel	485

Electrochemical Characteristics of Lead-Acid Battery Using Conducting Polymers as Additives to the Positive Electrode	
B.Z. Lubentsov, G.I. Zvereva, V.E. Dmitrienko and M.L. Khidekel	487
Practical Application of Thermally Structurized Polyacrylonitrile	
K. Jobst, L. Sawtschenko, M. Schwarzenberg, L. Wuckel, E. Brackmann, R. Wolf and D. Fehrmann	489
A New Class of Organic High-Spin Polymers	
N. Tyutyulkov, S. Karabunarliev, C.I. Ivanov and I. Kanev	491
Inorganic Superconductors from Metal Salt-Containing Organic Polymers: Polymeric Amphiphiles as Precursors for Ceramic Thin Films and Hollow Fibers	
I. Cabrera, J. Effing, H. Ringsdorf, J.C.W. Chien, B.M. Gong and Y. Yang	495
Poly(Phenylene Amine Imine)s: Thermochemical Synthesis and Study	
Y.A. Letuchy, E.I. Mirotvortseva, A.N. Mikhailova and V.M. Geskin	497
Extended PI-Systems - Synthetic Strategy and Realization	
A.D. Schlüter	499
Interaction of Composites Based on Conducting Polymers with Gases	
O. Timofeeva, B.Z. Lubentsov and M.L. Khidekel	501
Investigation of Microporosity of Thermo-Structured Conducting Polymers (PAN)	
H. Eichler	503
Application of Scanning Acoustic Microscopy for Research and Technology of New Polymer Composite Material	
N.S. Enikolopian and E.Y. Maeva	505
Synthesis and Crystal Structure of Ion-Radical Salt (BEDT-TTF)₂CdI₃	
E.I. Zhilyaeva, R.N. Lyubovskaya, O.A. Dyachenko, V.V. Gritsenko and S.V. Konovalikhin	507
Oranic BIS (Ethylenedithio) Tetrathiafulvalene-Based Conductors and Superconductors with Halide-Mercurate Anions, ET₄[Hg_{3-γ}X₈]	
R.N. Lyubovskaya, O.A. Dyachenko and R.B. Lyubovskii	509
Study of Conformational Stability of Polyacetylene Films by Infrared Spectroscopy	
O.S. Roshchupkina, G.I. Kozub and L.I. Tkachenko	511
Conducting Cation-Radical Salts Bedt-TTF with Metal Complex Anions	
N.D. Kushch, A.A. Ignatiev, V.N. Laukhin, M.K. Makova, V.A. Merzhanov, L.B. Rozenberg, V.E. Korotkov, R.P. Shibaeva and E.B. Yagubskii	513
New Nanocrystalline Soft-Magnetic Materials	
H.R. Hilzinger	515
Two Magnetic Phases within the Amorphous State and their Effect on Low Field Magnetic Properties of the Amorphous Co_{72.8}Fe_{5.2}Si₁₁B₁₁ Ribbon	
S. Szymura and J. Swierczek	521
Mössbauer Spectroscopy of Amorphous and Nanocrystalline Fe_{73.5}Cu₁Nb₃Si_{16.5}B₆	
T. Zemčík, Y. Jirásková, K. Závěta, D. Eckert, J. Schneider and N. Mattern	523
Magnetic Aftereffect in Amorphous and Nonocrystalline Fe_{73.5}Cu₁Nb₃Si_{16.5}B₆	
K. Závěta, K. Jurek, J. Schneider, R. Hesske and L. Illgen	525
Influence of Lanthanum Oxide Additives on Microstructure and Magnetic Properties of Ba-Ferrite	
V. Vasiljev, L. Tulchinsky and G. Yaglo	527
Structure and Magnetic Inhomogenities in Ba-Sr Ferrites	
V. Vasiljev, G. Yaglo, E. Tkalenko, V. Mishalov and L. Korotkova	529
Controlled Discontinuous Grain Growth - a Possible Way to Mn-Zn-Ferrite Single Crystals	
G. Schnitt, H. Boerner, H.C. Semmelhack, S. Muenschow and W. Warsitzka	531
The Influence of the Complex Conductivity Relaxation on the Dispersion of the Complex Permeability in Mn-Zn Ferrites	
G. Dietzmann and M. Schaefer	533
Induction of Ferromagnetism in Amorphous Films CdCr₂Se₄ and CdGeAs₂:Fe	
I.F. Gribov, V.D. Okunev and Z.A. Samoilenko	535
Study on Ion-Implanted Amorphous FeCrSiB Ribbons	
G. Serfözö, C. Daróczy, L.F. Kiss, É. Kisdi-Koszó and A. Ślawska-Waniewska	537
Jet Velocity - Coefficient of a Melt Fe-Si-B Flowing Out through a Circular Nozzle	
V. Anchev, C. Kondov and L. Karaivanov	539

Development and Current Status of Rare Earth Magnets and Bonded Magnets in Japan M. Okada and M. Homma	541
Magnetic Materials and Exchange Coupled Layer Structures for Magneto-Optic Information Storage D. Mergel, P. Hansen and S. Klahn	547
Rare-Earth-Transition Metal Boron Based Alloys for Technical Applications E. Burzo	553
Permanent Magnets Prepared by Hot-Working J.P. Nozières	557
Analysis of the Hardening Mechanisms in Sintered and Spin-Quenched Fe-Nd-B-Type Permanent Magnets G. Martinek, M. Grönefeld and H. Kronmüller	563
Magnetic Pigments and Magnetic Thin Films for Recording Information H. Hibst and E. Schwab	567
Barium Ferrites for Magnetic Recording Media P. Gönert, E. Sinn and M. Rösler	573
Magnetization Processes in NdFeB Magnets V. Christoph, K.H. Müller, L. Jahn and K. Elk	577
Superplasticity of the Fe-30%Cr-27%Co Alloy A.V. Korznikov and R.Z. Valiev	581
X-Ray Investigation of the Microstructure of the Alloy MnAlC I.A. Malinenko, S.A. Chudinova and A.D. Fofanov	583
Influence of the Epsilon-Phase Grain Size in the Mn-Al-C System Alloys on Structure and Properties A.K. Nurislamov and O.A. Kaibyshev	585
The Effect of Hot Straining on the Microstructure and Magnetic Properties of Cast and Rapidly Quenched Fe-Nd-B Alloy V.V. Stolyarov and R.Z. Valiev	587
Magnetization Curves of Rare Earth Based Permanent Magnets K.H. Müller, D. Eckert, A. Handstein, J. Schneider and U. Heinecke	589
Grain Size Distribution and Coercivity of Sintered NdFeB Permanent Magnets P. Nothnagel, K.H. Müller and D. Eckert	591
Thermal Remagnetization in Nd₂Fe₁₄B Based Permanent Magnets D. Eckert, A. Handstein and K.H. Müller	593
Microstructure and Magnetic Properties of Nd₂Fe₁₄B Based Permanent Magnets A. Handstein, K.H. Müller, D. Eckert, P. Nothnagel and J. Schneider	595
Coercivity of CrO₂ Powder as a Function of the Particle Size M. Osmolowsky, I. Zvereva, L. Ivanova and A. Petrov	597
Substrate, Underlayer and Magnetic Recording Medium of Metal Thin Film Disk, Structure and Properties E.D. Politova and A.V. Firsov	599
Experimental Studies of Sputtered Thin Film Disk with CoNiCr Magnetic Layer and Cr Underlayer A.K. Andriatis, L.I. Kosse, A.M. Muraviev and A.A. Faktorovich	601
Uniform-Size Ba-Ferrite Particles for Magnetic Media V.V. Pankov	603
The Multilayer Systems for Magneto-Optical Information Recording V.G. Kutilin, Y.A. Lisovsky, I.G. Nikulov, A.M. Umpelev and A.O. Titov	605
A Model for Calculating Metal Thin Film Disks Magnetic Recording Media Parameters According to Experimental Hysteresis Loops N.P. Vasilyeva, S.I. Kasatkin and L.I. Kosse	607
Magnetic Behaviour of Iron in R₂Fe₁₄B-Based Compounds N. Plugaru and E. Burzo	609
Magnetic Properties of RCo_{4-X}M_XB Compounds where M=Fe or Ni and R is a Rare-Earth E. Burzo, V. Pop and N. Plugaru	611
Magnetization Process in Perpendicular Magnetic Recording Films with Columnar Structure I.G. Nikulov, Y.A. Lisovsky, V.L. Stolyarov, V.G. Kutilin and P.V. Zhorin	613

Magnetostriction in Amorphous Magnetic Alloys H. Szymczak	615
Slow Domain Wall Motion and Magnetic Domain Structure in Amorphous TbFe Films T.G. Pokhil, B.S. Vvedensky and E.N. Nikolaev	619
Magnetic Properties in Relation to Vacancy Ordering and Distribution of Aluminium Ions in Disordered Gamma-(Fe, Al)₂O₃ E. Wolska	621
Influence of Unidimensional Inhomogeneity of Magnetic Anisotropy Constant on Characteristics of Domain Walls in Ferromagnetics M.A. Shamsutdinov, M.M. Fartzdinov, V.G. Veselago and E.G. Ekomasov	623
Static and Dynamic Properties of Domain Walls in Crystals with Combined Anisotropy R.M. Sabitov and R.M. Vakhitov	625
Magnetic Hysteretic Properties of Pure Ferromagnetics with Submicron Grained Structure K.Y. Mulyukov, G.F. Korznikova and R.Z. Valiev	627
Role of Magnetostriction in Forming Domain Structure in Ferromagnetics M.A. Shamsutdinov, A.A. Khalfina and M.M. Fartzdinov	629
Magnetostriction in Amorphous Co_{91.5-x}Zr_{8.5}Pt_x Thin Films R. Zuberek, H. Szymczak, G. Suran and M. Naili	631
Magnetoelastic Properties of Ni/Pb Multilayer Thin Films R. Zuberek, H. Szymczak and A. Wawro	633
Magnetic Properties of Iron-Rare Earths Multilayers L.T. Baczewski, M. Piecuch, G. Marchal and P. Delcroix	635
Influence of Impurities on Magnetic Transitions in High Purity Rare Earth Metals G.S. Burkhanov, L.A. Boyarsky, O.D. Chistayakov and N.B. Kolchugina	637
Study of the Cationic Distribution in a Holmium Substituted Magnesium-Manganese Ferrite K. Krezhov and I. Nedkov	639
Relaxation Phenomena and Magnetic Phase Transitions AF-F in Magnetic Systems Mn_{2-x}M_xSb (M=Cr, Cu, Zn, Ti) N.D. Zhigadlo	643
Field-Induced Instability of Magnetic Long-Range Order in Antiferromagnets with Random Anisotropy J. Richter, R. Skomski and K. Retzlaff	645
The Calculation of the Electronic Structure and Fermi Surface of the Antiferromagnetic Phase NiMn by the Linear Muffin-Tin Orbitals Method V.E. Egorushkin, V.V. Kalchikhin, S.E. Kulkova and O.V. Boev	647
SPD-Method: Influence of Misorientation and Texture R. Scholl, K. Elk, D. Eckert and L. Jahn	649
Calculated Magnetization Curves of Multiphase Permanent Magnets K.H. Müller and V. Christoph	653
Stochastic Geometry and its Applications in Materials Science D. Stoyan	655
Monte-Carlo-Simulation of Precipitation Phenomena R. Schmidt	659
Random Spherical Contact: an Approach to the Characterization of Spatial Arrangement of Particles I. Saxl, K. Pelikán and M. Besterci	663
Topological Based Structures in Material Science B. Müller	665
Simulation of the Structure and Properties of High-Tech Materials Using the "Structure" Program Package V.L. Prilepo and V.P. Gogolin	667
Distribution of Grain Misorientations in a Model Polycrystal V.Y. Gertsman, A.P. Zhilyaev and A.I. Pshenichnyuk	669
Computer Simulation of Amorphous Carbon Structure Using Spherically-Asymmetric Pair Interaction Potentials T.A. Cherepanova, A. Vaivods and H. Hermann	673

Statistical Description of the Interfaces in Condensed Matter T.A. Cherepanova and A.V. Stekolnikov	675
Modelling of Thin Film Growth Using Anisotropic Migration E. Hacker	677
The Stochastic Model of Ionic Polarization Processes in Structure-Irregular Dielectrics Y.S. Skripnikov	679
Histograms of Impurity Distribution Coefficient Values for Solid-Liquid Equilibrium V.M. Stepanov and A.R. Fidelman	681
Formation and Evolution of Fractal Structures upon Interdiffusion V.B. Sapozhnikov and M.G. Goldiner	683
Simulation of Random Crack Initiation, Growth, and Coalescence T. Winkler, B. Michel and H. Vogt	685
Computer Simulation of the Effect of Crystallographic Texture on Superplastic Flow M.G. Zelin and M.V. Aleksandrova	687
Characteristics of Cell-Area Distributions of Planar Voronoi Mosaics H. Wendrock and H. Hermann	689
Microstructural Self-Organization in Crystalline Materials C. Abromeit and H. Wollenberger	693
A Mesoscopic Theory of Irradiation-Induced Void-Lattice Formation P. Hähner and W. Frank	697
Structural Development in Growth Processes W. Pompe, H.A. Bahr and M. Bobeth	701
Nucleation in Glass-Forming Melts: Recent Results in Anorganic Systems and with Organic Polymers I. Gutzow and A. Dobрева	707
Theory of Ostwald Ripening for Precipitates with Surface Fractal Dimension P. Streitenberger and D. Forster	711
Some Peculiarities of Defect Formation in Scheelite Solid Solutions in $\text{SrMO}_4\text{-Eu}_2(\text{MO}_4)_3$ (M=Mo, W) Systems M.B. Vidrevich	715
Defect Structure Evolution Related with Amorphization Processes in Deformed Metals I.A. Ovidko	717
Dynamic Dragging of Dislocations and Generation of Point Defects in H.C.C. Solids L.E. Popov, S.N. Kolupaeva and N.V. Korotaeva	719
Theoretical Investigations on the Evolution of Dislocation Structures in Fatigued F.C.C. Single Crystals A. Schwab and H.J. Burmeister	721
Computer Simulation of the Generation of Dislocation Loops by a Frank-Read Source in the Field of Randomly Situated Obstacles L.E. Popov, M.I. Slobodsky and T.N. Golosova	723
On Behaviour of Dislocations in Thin Films M.Y. Gutkin and A.E. Romanov	725
Quantum-Stochastic Modelling of the Inherited Formation of Surface Properties M. Anfyorov and A. Rakhmankulova	727
Computer Simulation of Interface Movement in the Process of Solid-Phase Epitaxy A.Y. Vilenkin, I.P. Boglaev and E.A. Zalem	729
Modelling of Shear and Diffusional Plastic Deformation in Solids L.E. Popov, V.A. Starenchenko, S.N. Kolupaeva and T.A. Kovalevskaya	731
Evolution of Crystallization Structures at Constantly Increasing Supersaturation A. Dobрева and I. Gutzow	733
Computer Simulation of Primary Recrystallization V.Y. Novikov, E.A. Zalem and I.S. Gavrikov	735
Influence of Nucleation Mechanism on the Evolution of Microstructures during Nucleation and Growth B. Lorenz	737
Thin Films of Complex Transition-Element Compounds M.Y. Khodos	739

Simulation of Growth Structure of PVD Thin Films J. Musil and J. Prchal	741
Transport Processes and Chemical Reactions on Fractal Systems G. Vojta	743
Stochastic Internal Stresses in Heterogeneous Materials W. Kreher and W. Pompe	747
Structure Models and some Structure-Property Relationships of Stochastic Microheterogeneous Materials H. Hermann	751
Microstructure Dependence of Effective Material Constants of Composites J. Monecke	755
Violation of the Fluctuation-Dissipation Theorem (FDT) for Specially Prepared Brownian Particles K. Handrich	757
Phason Modes Contribution into the Dynamics of Pinned - Charge Density Waves	759
The Effective Conductivity of Symmetric Multiphase Materials K.H. Müller	761
Effect of Structure Defects on Strength of Grained Composite Materials N.V. Novikov, A.L. Maistrenko and N.V. Lamashevskaya	763
Absorption of X-Rays in Stochastic Heterogeneous Materials M. Ermrich and H. Hermann	765
Influence of the Intersolubility of Atomic Species on the Curie Temperature of Multilayer Structures W. Maciejewski and W. Maciejewska	767
Cluster Formation in an Fe-Si-N Alloy B. Beyer, E.-. Herbst, M. Militzer and J. Wieting	769
Pseudoelastic Hysteresis in a CuZnAl Single Crystal with Shape Memory Effect H. Xu	771
Investigation of Polydisperse, Disordered, and Fractal Systems by Small-Angle X-Ray and Neutron Scattering P.W. Schmidt, Y.Y. Tang, A. Röhl, M. Steiner, A. Höhr and H.B. Neumann	775
Laser Generation of Acoustic Waves in Solids with Stochastically Rough Surfaces V.V. Krylov	781
Fractals in Irradiated UO₂ Nuclear Fuel Study Z. Neda and M. Popov	783
Ion Collision Cascades as Fractals B. Rauschenbach	787
Growth of Shape Memory Single Crystals H. Xu and S. Tan	789
Structure Evolution during Thin Film Disintegration in Islands M.G. Goldiner and V.A. Mazur	793
Rotational Modes of Plasticity in Shock-Induced Structure-Unstable State of Material Y.I. Meshcheryakov, S.A. Atroshenco, V.B. Vasilkov and A.I. Chernyshenko	795
Structural Self-Organization of High-Speed Steels during Electrostimulated Drawing V.E. Gromov, L. Zuev and S.A. Bashkirova	797
Effect of Ni, Mo, Mn, Si and C on the Mechanical Properties of the Bainitic Spheroidal Graphite Cast Iron A.R.I. Kheder and A.N. Aboud	799
Intensification of Diffusional Mass Transfer in Heterogeneous Fe-Base Powder Materials L. Fraiman and E. Zvonaryov	805
Normal Grain Growth in Microcrystalline Thin Films of Ag V.G. Sursaeva	807
The Study of Porosity of Anodic Oxide Aluminium Films by the Method of X-Ray Small-Angle Scattering V.V. Petrova, N.V. Siromyatina and G.A. Kolesnikova	809
Nonhomogeneous Structure Modeling in Local Analysis B.K. Zuev, I.L. Skryabin and L.E. Kordonsky	811

The Influence of Shape, Size and Volume Fraction of Graphite Inclusions on the Propagation of Ultrasound in Cast Iron B. Koehler, F. Berger, B. Bilger and B. Rehmer	815
Electron Microscopy Study of the Distribution of Misorientation Parameters for Grain Boundaries in a Ni-Cr Alloy V.Y. Gertsman, V.N. Danilenko and R.Z. Valiev	817
Electron Spin Resonance Exchange Combinations in Specific Disordered Materials - Application to Study their Microstructure and Technology N. Van Tri	819
OH Diffusion - on the Measurement of Concentration Profiles in Doped MCVD-Silica Layers Using a Color Center Laser G. Braun, J. Kirchhof and P. Kleinert	821