

# Table of Contents

## Preface

<b>The Role of Munich in X-Ray Crystallography and the Development of Powder Diffraction</b>	1
H. Jagodzinski	
<b>Indexing of Powder Diffraction Patterns</b>	17
D. Louér	
<b>Quo Vadis Quantitative Powder Diffraction Phase Analysis</b>	27
J. Fiala	
<b>Automated Multicomponent Phase Identification using Fuzzy Sets and Inverted Data Base Search</b>	35
C. Brandt, H. Rozendaal, T. Blaffert and S. Bates	
<b>XRD as a Tool in Phase-Diagram Imaging</b>	41
W. Lengauer and P. Ettmayer	
<b>Ambiguities in the Interpretation of Powder Patterns</b>	47
R.X. Fischer and E. Tillmanns	
<b>Detectability of Phases in Protective Magnetite Thin Film Samples</b>	53
V. Novosel Radovic, N. Nenadic and F. Safar	
<b>Depth Distribution of Phase Content Reconstruction in Thin Films X-Ray Diffractometry</b>	61
L.G. Shabelnikov	
<b>Quantitative Phase Analysis of Textured Materials</b>	67
H.G. Brokmeier	
<b>X-Ray Diffraction Line Profiles due to Real Polycrystals</b>	73
P. Klimanek	
<b>Quality of Unravelling of Experimental Diffraction Patterns with Artificially Varied Overlap</b>	85
E.J. Sonneveld, R. Delhez, T.H. de Keijser and E.J. Mittemeijer	
<b>PC-Profile Analysis of Peak Clusters in Angle and Energy Dispersive Powder Diffractometry</b>	91
C. Höffner, G. Will and F. Elf	
<b>Desummation of Mixed Powder Diffraction Lines</b>	99
A. Benabad-Sidky, G. Caboche, M.T. Mesnier and J.C. Niepce	
<b>A Method for Data Reduction and Optimal Experimental Design in XPD</b>	107
G. Querner, J. Bergmann and W. Blau	
<b>The Method of Synthesizing the Function of the Diffraction Maximum Shape. The Possibility of Applying it for Structural Refinement</b>	113
V.A. Kogan and M.F. Kupriyanov	
<b>A Correction for Truncation of Powder Diffraction Line Profiles</b>	119
A.C. Vermeulen, R. Delhez, T.H. de Keijser and E.J. Mittemeijer	
<b>Comparison of Single- and Multiple-Peak Methods for the Determination of Crystallite Size and Lattice Strain using Pseudo-Voigt Functions</b>	125
N. Zotov	
<b>X-Ray Powder Diffraction Data Reduction by Integrating the Wilson and the Warren-Averbach Theories</b>	131
G. Berti	
<b>Simulation of Diffraction Patterns from Small Bimetallic Crystals with Concentration Gradient</b>	139
J. Pielaszek and J. Barczynska	
<b>X-Ray Stress Analysis</b>	143
J.M. Sprauel and L. Castex	
<b>Influence of PSI- and OMEGA-Tilting on X-Ray Stress Analysis</b>	153
S. Fischer, E. Houtman and H.R. Maier	
<b>Non-Destructive Stress Measurement with Depth Resolution</b>	159
M. Härtung and G. Fritsch	

<b>Determination of the Misfit and Layer Thickness of Monocrystalline Epitaxial Layers by Means of High-Resolution X-Ray Diffraction</b>	165
H.- Brühl and H. Rhan	
<b>Preferred Orientation in Powder Diffraction</b>	169
H.J. Bunge	
<b>Texture Analysis of Multi-Phase Materials by Neutron Diffraction</b>	179
H.G. Brokmeier	
<b>Extinction in Texture Analysis</b>	185
A. Mücklich and P. Klimanek	
<b>Method of Scanning of Reciprocal Space of Axial Textures and its Applications to Structural Investigations</b>	191
G.A. Krinari and Z.J. Haliton	
<b>On the Use of Rietveld Refinements for Structural Studies</b>	197
P.- Werner	
<b>The Two-Step-Method and its Applications in Crystallographic Problems</b>	207
G. Will	
<b>Sign Determination from Powder Diffraction Data of CuSO<sub>4</sub> · 5H<sub>2</sub>O</b>	221
W. Limper, W. Prandl and T. Wroblewski	
<b>Fourier Maps Obtained from Powder Diffraction Data - Applications Beyond Pure Illustration</b>	227
S. Jantsch, J. Ihringer, W. Prandl and H. Ritter	
<b>Influence of Crystallite Size and Microstain on Structure Refinement</b>	233
P. Scardi, L. Lutterotti, R. Di Maggio and P. Maistrelli	
<b>Crystal Size Dependent Anisotropic Line Broadening in Rietveld X-Ray Analysis</b>	239
R. Millini, G. Perego and S. Brückner	
<b>A Theta-Dependent Error Present in Powder Data of Highly Absorbing Materials: A Surface Roughness Effect?</b>	245
N. Masciocchi, H. Toraya and W. Parrish	
<b>Qualitative XRPD Analysis System</b>	251
V. Pivoriunas	
<b>Qualitative X-Ray Phase Analysis on the Basis of the Calculated Standards</b>	257
A.V. Chichagov	
<b>Program Package COMPHYS for IBM PC</b>	263
M.S. Nakhmanson	
<b>Solution of Nontraditional Problems Based upon PDF-2</b>	267
M.S. Nakhmanson	
<b>Database for Qualitative X-Ray Diffraction Phase Analysis of Natural Materials</b>	271
E.K. Vasil'ev	
<b>GUFI-WYRIET: An Integrated PC Powder Pattern Analysis Package</b>	277
J. Schneider and R.E. Dinnebier	
<b>MRIA - A Program for a Full Profile Analysis of Powder Neutron-Diffraction Time-of-Flight (Direct and Fourier) Spectra</b>	283
V.B. Zlokazov and V.V. Chernyshev	
<b>Numerical Refinement of Lattice Parameters: Monoclinic Case</b>	289
W. Paszkowicz	
<b>Thermal Coefficient of Expansion (TCE)-Program for Calculation of TCE's for Single Crystals of all Systems</b>	295
R.A. Dilanyan, B.Z. Narymbetov and L.A. Novomlinski	
<b>Database for the Structural Problems of High Temperature Superconductors</b>	299
E.A. Gamazova and L.A. Novomlinski	
<b>PULPLOT - A PC Routine for the Graphic Representation and Superimposition of X-Ray Powder Diffraction Patterns</b>	303
W. Lengauer	
<b>New Instrumentation in Powder Diffraction</b>	307
J. Ihringer	
<b>A Powder Diffractometer for Large-Sized Specimens</b>	317
A.A. Evgrafov, A.P. Kokko, P.P. Bolshakov, A.L. Bunin, A.D. Plotnikov and S.Y. Betsofen	

<b>The Quantitative Powder Diffractometer, QPD</b>	323
J. Ladell, W.N. Schreiner and B.L. Greenberg	
<b>Imaging the Focus of a Microfocus X-Ray Source with Zone Plates</b>	329
A. Krutzenbichler and G. Fritsch	
<b>Fluid Cooled Rotating Anode Without Mechanical Feedthrough of the Anode Axis to the Vacuum</b>	335
J. Ihringer	
<b>Diffractometer with a Curved PSD for Analysis of Polycrystalline Microsamples</b>	339
D.A. Goganov, O.I. Ageev and B.M. Reizis	
<b>X-Ray Diffractometric Sensors in Commercial Production</b>	343
Y.S. Grigoriev and A.A. Evgrafov	
<b>New Detectors in X-Ray Diffraction</b>	349
P.A. Tucker	
<b>Highly Stable Position-Sensitive Detectors for Powder Diffractometry</b>	357
O.I. Ageev, D.A. Goganov, S.M. Goutkevich, I.B. Klochkova and E.K. Ovchinnikov	
<b>The INEL X-Ray Position Sensitive Detector: A Study of D-Spacing Accuracy and Exposure Time</b>	363
P. Deniard, M. Evain, J.M. Barbet and R. Brec	
<b>A Two-Dimensional CCD-Based Detector for X-Ray Radiation</b>	371
F. Elf, G. Will and S. Weisgerber	
<b>Analyser and P.S.D.: Energy Resolution Improvement</b>	377
S. Megert, D. Dallé and D. Petermann	
<b>Physical Principles of X-Ray Storage Phosphors</b>	383
H. von Seggern	
<b>Silicon Pin Photodiodes as Detectors with High Dynamical Range for X-Rays</b>	389
B. Lengeler, U. Dedek, C. Storb, W. Weber and M. Schuster	
<b>A High Resolution Gas Electroluminescent Detector for X-Ray Structure Analysis</b>	395
D.A. Goganov and A.A. Schultz	
<b>The Application of a Proportional-Scintillation-Detector in X-Ray Diffractometry</b>	399
K. Richter, D. Meyer, J. Linz, K. Moras and W. Blau	
<b>Autoradiographic Image Enhancement of Debye-Scherrer Patterns</b>	405
B.I. Reznik, V.D. Rusov, M.U. Semenov and V.I. Petrashevich	
<b>Energy Dispersive XRPD at High Pressure</b>	409
L. Gerward	
<b>X-Ray Diffractometer for High Pressure and Low Temperatures</b>	419
H. Karzel, U. Potzel, W. Potzel, J. Moser, C. Schäfer, M. Steiner, M. Peter, A. Kratzer and G.M. Kalvius	
<b>First Experiments with a Newly Developed High-Pressure/High-Temperature Cell for Neutron Powder Diffraction</b>	427
K. Fütterer, W. Depmeier, J. Strobel and T. Vogt	
<b>Low- and High-Temperature Accessories for the D500 Powder Diffractometer</b>	433
M. Behr, F.D. Scherberich and T. Hahn	
<b>A New Attachment for Non-Ambient X-Ray Powder Diffraction Studies in Various Atmospheres</b>	439
K. Richter, B. Peplinski and P. Doppler	
<b>A Furnace for X-Ray Powder Diffraction with Synchrotron Radiation</b>	445
H. Arnold	
<b>Powder Diffraction using Synchrotron Radiation</b>	447
M. Hart	
<b>The Use of Debye Scherrer Geometry for High Resolution Powder Diffraction</b>	455
R.J. Cernik and G. Bushnell-Wye	
<b>A New Beauty for Adone: A High Resolution Powder Diffractometer for Synchrotron Radiation Experiments</b>	463
E. Burattini, G. Cappuccio, P. Maistrelli and S. Simeoni	
<b>Depth Profiling in Thin Films by Grazing Incidence Diffraction using Synchrotron Radiation</b>	469
T. Wroblewski	

<b>A New High Resolution Neutron Powder Diffractometer at the Brookhaven High Flux Beam Reactor</b>	475
L. Passell, S. Bar-Ziv, D.W. Gardner, D.E. Cox and J.D. Axe	
<b>A New Neutron-Multi-Detector Diffractometer at the Rossendorf-Reactor</b>	481
G. Merz, G. Försterling, V.A. Trunov and V.A. Ulyanov	
<b>Status and Horizons of Time-Resolved Neutron Scattering at the Pulsed Reactor IBR-2</b>	487
G.M. Mironova	
<b>Characterization of Epitaxial Thin Films by X-Ray Diffraction</b>	493
A. Segmüller	
<b>Glory and Misery of the Structure Analysis of Thin Polycrystalline Films</b>	503
V. Valvoda	
<b>Applied Crystallography in Advanced Ceramics</b>	513
R.L. Snyder	
<b>Neutron Powder Diffraction and Oxide Superconductors</b>	529
A.W. Hewat	
<b>Elucidation of Deformation and Recovery Mechanism in Nickel-Base Alloy 600 by X-Ray Rocking Curve Measurements</b>	539
S. Weissmann, W.E. Mayo and C.F. Lo	
<b>X-Ray Determination of the Martensite Structure in Fe-Ni Base Aged Alloys</b>	545
V.V. Kokorin and O.M. Shevchenko	
<b>Changing of the Crystalline Structure of Martensite of High-Nickel Steel at Low Temperature</b>	551
V.I. Bondar and V.E. Danil'chenko	
<b>X-Ray Examination of the Ribbon, Prepared by the High Speed Solidification of the Fe-Ni-Co-Ti Alloy</b>	557
V.A. Chernenko, M.Y. Hamarnik and L.E. Kozlova	
<b>X-Ray Diffraction Studies of Secondary Hardening in CrMoV Hot Working Tool Steels</b>	561
C. Herrmann and D. Naundorf	
<b>X-Ray Study of Annealing Process of Au<sub>3</sub>Cu, AuCu and AuCu<sub>3</sub> at 270° C in Air</b>	567
J. Janczak and R. Kubiak	
<b>XRD Studies on Atomic Ordering of Ni-Cr Based Alloys</b>	575
A. Marucco	
<b>Structure of Electrodeposited Cu-Cd Alloys After Annealing</b>	581
E. Łagiewka and L. Pajak	
<b>In Situ Study of Ag Electrode in Contact with a Solid Oxide Electrolyte</b>	589
A.V. Ziborov, L.M. Plyasova and O.A. Mar'ina	
<b>Structure and Thermal Diffusion in Al/Fe Thin Films and Multilayers</b>	595
M.F. Ravet, J.F. Bobo, P. Frechard, O. Lenoble and M. Piecuch	
<b>On Character and Nature of Size Changes in the Lattice Parameters of Small Metal Particles</b>	601
M.Y. Gamarnik	
<b>Structure of Nanocrystalline Soft-Magnetic Materials</b>	607
N. Mattern	
<b>Application of Grazing Incidence for the Investigation of the High Temperature Corrosion of Steel</b>	613
N. Eisenreich, W. Engel, V. Kolarik, M. Juez-Lorenzo and A. Rehfeldt-Oskierski	
<b>High Temperature Corrosion Kinetics using a Fast X-Ray Diffraction Method</b>	617
V. Kolarik, M. Juez-Lorenzo, N. Eisenreich and W. Engel	
<b>Powder Diffraction Investigation of γ - ε and γ - ε' Transformations in an Fe-Mn-C Alloy</b>	623
B.I. Nikolin, V.I. Bondar and A.Y. Babkevich	
<b>Crystal Structure of Intermediate Phases in Binary B-Metal Alloys Induced by High Pressure</b>	629
V.F. Degtyareva	
<b>Neutron- and X-Ray Powder Investigation of the Zintl Phases NaTl and LiAl at Temperatures up to 900K</b>	635
M. Tadin, J. Schneider, H. Boysen and F. Frey	
<b>A High-Pressure X-Ray Diffraction Study of UAs<sub>0.6</sub>Se<sub>0.4</sub></b>	643
L. Gerward, J. Staun Olsen, U. Benedict and H. Luo	

<b>XRD Characterization of Sputtered Mo and W Thin Films</b>	647
J.L.C. Daams, T.J. Vink, M.A.J. Somers and A.G. Dirks	
<b>Texture and Lattice Strain Determination of Molybdenum Thin Films Deposited by D.C. Magnetron Sputtering</b>	653
P. Gergaud, P. Bosland, J.J. Bacmann and J.L. Lebrun	
<b>Stress Analysis by X-Ray Diffraction. The Effect of Cementation on the Surface Distribution of Residual Stresses in Alloy Steels</b>	659
L.E. Depero, P. Bonzi and M. Zocchi	
<b>Neutron Diffraction Study of Sintering of Aluminium Oxide</b>	665
B.F. Palosz, H. Boysen and T. Vogt	
<b>Solid Way Synthesis of Barium Aluminate. High Temperature X-Rays Diffraction Study of Intermediary Compounds</b>	671
L. Perier-Camby, A.M. Vernay and G.P. Thomes	
<b>Solving X-Ray Powder Pattern Problems Dealing With Layer Structures in the Field of Calcium Aluminum Hydroxi Salts</b>	679
H. Pöllmann	
<b>X-Ray and Neutron Powder Investigations of Pure and Yttrium Doped CeO<sub>2</sub> at Temperatures up to 1600 K</b>	685
K. Berber, U. Martin, Z. Mursic, J. Schneider, H. Boysen and F. Frey	
<b>Phase Studies in the System Chromium-Manganese-Titanium Oxide at Different Oxygen Partial Pressures</b>	691
A. Naoumidis, H.A. Schulze and C. García-Rosales	
<b>X-Ray Diffraction of CuS<sub>2</sub> under High Pressure</b>	697
H. Hüpen, G. Will, C. Höffner and F. Elf	
<b>Influence of Nd-Substitution on the Orthorhombic/Rhombohedral Phase Transition of LaGaO<sub>3</sub></b>	703
T. Berthold and B. Jobst	
<b>A Temperature-Resolved X-Ray Powder Diffraction Study of the Decomposition of Three Metal Hydroxide Nitrates M<sub>5</sub>(OH)<sub>8</sub>(NO<sub>3</sub>)<sub>2</sub>.2L (M=Cd,Zn; L=H<sub>2</sub>O, NH<sub>3</sub>)</b>	709
P. Bénard, J.-. Auffrédic and D. Louér	
<b>X-Ray Study of Crystallization Kinetics and Phase Transformations of Zinc- and Cadmium Diphosphide Films</b>	715
A.U. Sheleg, V.A. Denis, E.M. Zub and L.S. Unyarkha	
<b>The High-Temperature Phase of Zeolite Sr-rho Contracts Appreciably Compared with its Low-Temperature Form</b>	721
A. Bieniok and W.H. Baur	
<b>The Using of Multiphase Rietveld Refinement in Quantitative Analysis</b>	727
J. Maixner and M. Hušák	
<b>Process-Optimization in Large-Scale Production of Mn-Zn-Ferrites using Powder Diffraction</b>	733
A. Meden, V. Kaucic and A. Zivic	
<b>Rietveld Analysis and Quantitative Analysis of Ettringite Formed by Hydration of Lignite Gasification Ash</b>	739
W. Schmitz, B. Heide and P. Schreiter	
<b>Quantitative X-Ray Diffraction Rietveld Analysis of Low Temperature Coal Ashes</b>	745
M. Bellotto and C. Cristiani	
<b>The Calcite-Gypsum Conversion in Mortar Joints of Railroad Tunnels - An X-Ray Study</b>	751
B. Baumgartner, E. Wölfel, W. Mann and M. Betzler	
<b>The Analysis of Urinary Calculi by X-Ray Diffraction and IR-Spectroscopy</b>	757
D. Krausová, J. Kamenícek and V. Bekárek	
<b>Powder Profile Refinement of a Commensurately Modulated Aluminate Sodalite</b>	763
W. Depmeier and A. Yamamoto	
<b>Phase Transitions of the Aluminate Sodalite CAW</b>	769
J.W. Strobel, W. Paulus and W. Depmeier	
<b>Crystal and Magnetic Structure of the Magnetically Modulated Spinels Zn<sub>1-x</sub>Ga<sub>2x/3</sub>Cr<sub>2</sub>Se<sub>4</sub> Where (X=0.0, 0.1, 0.2, 0.3, 0.5)</b>	771
H. Rej, A. Bombik, J. Kusz, A. Oles, M. Pinod and J. Warczewski	

<b>Spinel Cation Distribution from Powder X-Ray Diffraction. Data Comparison with External-Field <math>^{57}\text{Fe}</math> Mössbauer Spectroscopy at 4.2 K</b>		
P.M.A. de Bakker, E. De Grave, D. Gryffroy, R.E. Vandenberghe and P. Moens	777	
<b>A Neutron Diffraction Study of some Spinel Compounds Containing Octahedral Ni and Mn at a 1:3 Ratio</b>		
D. Gryffroy, R.E. Vandenberghe and E. Legrand	785	
<b>Symmetry of the Ferroelectric Phases of the Pyrochlore <math>\text{Cd}_2\text{Nb}_2\text{O}_7</math> - A Study using a Very High Resolution Powder Diffractometer at a Synchrotron Radiation Source</b>		
A. Küster, J. Ihringer, W. Limper, T. Wroblewski and W. Prandl	791	
<b>Production and Characterization of Thin Ferroelectric Lead Zirconate Titanate Films</b>		
R. Bruchhaus, B. Jobst, H. Huber and D. Pitzer	797	
<b>Structural Data of the Monoclinic High-Temperature G-Form of <math>\text{La}_2\text{Si}_2\text{O}_7</math> from X-Ray Powder Diffraction</b>		
O. Greis, H.G. Bossemeyer, P. Greil, B. Breidenstein and A. Haase	803	
<b>X-Ray Powder Diffraction Study of Francolite by the Rietveld Method</b>		
B. Perdikatis	809	
<b>An X-Ray Powder Diffraction Study on Calcium-Lead Hydroxyapatites</b>		
A. Bigi, M. Gandolfi, M. Gazzano, A. Ripamonti, N. Roveri and S.A. Thomas	815	
<b>Rietveld Studies of the Aluminium-Iron Substitution in Synthetic Goethite</b>		
J.-. Hazemann, J.F. Bérar and A. Manceau	821	
<b>Powder X-Ray Diffraction Study of Topotactic Lithium Exchange in Manganese (III) Arsenate Hydrate</b>		
M.G. Aranda, J.P. Attfield and S. Bruque	827	
<b>Refinement of the Crystal Structure of <math>\text{Pb}_2\text{HP}_3\text{O}_{10}</math> by Rietveld Analysis</b>		
G. Walther, R. Seydel and H. Worzala	833	
<b>Ab Initio Structure Determination of <math>\text{Zr}(\text{OH})_2(\text{NO}_3)_2 \cdot 5\text{H}_2\text{O}</math> from X-Ray Powder Diffraction Data</b>		
P. Bénard, M. Louër and D. Louër	839	
<b>Characterization of the Natural Zeolite Gonnardite. Structure Analysis of Natural and Cation Exchanged Species by the Rietveld Method</b>		
G. Artioli and M.R. Torres Salvador	845	
<b>Luminescence Properties and X-Ray Diffraction Line Analysis of <math>\text{LaOBr:Tb}</math></b>		
H. Wulff and U. Sasum	851	
<b>Texture Analysis of Evaporate Polycrystalline <math>\text{Zn}_x\text{Cd}_{1-x}\text{S}</math> Thin Films</b>		
H. Dittrich, R. Schäffler and H.-. Schock	857	
<b>The Phase Composition of <math>\text{ZnO}</math> Ceramic Filters for the Desulfurization of Coal Gases in Dependence on their Preparation and the p,t Conditions</b>		
U. Steinike, H.-. Hennig, K. Jancke, K.-. Redlich, N. Jentzsch and C. Möcklinghoff	863	
<b>Temperature Expansion in <math>(\text{La},\text{Sr})(\text{Mn},\text{Co})\text{O}_3</math>-Cathode Materials for Solid Oxide Fuel Cells</b>		
A. Iberl, H. von Philipsborn, M. Schiessl, E. Ivers-Tiffée, W. Wersing and G. Zorn	869	
<b>Characterization of Oxygen-Electrode/Electrolyte Interface Reactions in Solid Oxide Fuel Cells by X-Ray Diffraction Measurements</b>		
E. Ivers-Tiffée, B. Jobst, I. Kraus, R. Schachtner and M. Schiessl	875	
<b>Thermal Behaviour of Molecular Sieves (SAPO-11/AlPO-11 Type) Investigated by Synchrotron Radiation X-Ray Diffraction (SRXD)</b>		
F. Neissendorfer, E. Jahn, S.N. Gusenko and M.A. Sheromov	883	
<b>Hydrogen Loss and Interdiffusion in Amorphous Si/SiC Multilayers</b>		
G. Zorn, J. Kolodzey, H. Göbel, T. Fischer, P. Hanesch and R. Schwarz	887	
<b>Observation of Annealing Effects in Ti/TiN-Diffusion Barriers using High-Temperature X-Ray Diffraction</b>		
G. Zorn and H. Joswig	893	
<b>Structure of TiN Thin Film Grains in Dependence on their Crystallographic Orientation</b>		
V. Valvoda, R. Cerný, R. Kužel, M. Blomberg and M. Merisalo	903	
<b>Heat-Treated NiO and Changes of Microstructural Parameters</b>		
S. Pocev, B. Marina and S. Bogoevski	909	
<b>X-Ray Determination of Characteristics of Finely Dispersed Supports and Supported Catalysts</b>		
E.M. Moroz, V.A. Ushakov and S.V. Bogdanov	915	

<b>Indexing of New Superconducting Oxide Powder Patterns</b>	
J. Hauck, B. Bischof, N. Dockal, E. Droste, C. Feiburg, H. Hindriks, S. Ipta, F. Klumpe, K. Mika and A. Preikschat	919
<b>Stoichiometry and Temperature Dependence of <math>\text{YBa}_2\text{Cu}_3\text{O}_x</math> Structure Parameters</b>	
G. Försterling, I.V. Golosovsky and W. Plakhty	927
<b>Temperature Dependence of the Lattice Constants of <math>\text{YBa}_2\text{Cu}_3\text{O}_{7-x}</math></b>	
U. Wachtel, M.G. Gorskaja, S.K. Filatow, P. Paufler, W. Schmitz and W. Reichelt	935
<b>Growth of <math>\text{YBa}_2\text{Cu}_3\text{O}_{7-x}</math> Thin Films on R-Plane Sapphire (O112) Using Yttria Stabilized Zirconia (YSZ) Buffer Layers</b>	
K. Hradil, H. Schmidt, W. Hösler, W. Wersing, F. Frey, B. Jobst and G. Zorn	941
<b>X-Ray Absorption and Reflection in Materials Science</b>	
B. Lengeler	947
<b>Some Sample Preparation Methods for Powder Diffraction at Neste Oy</b>	
H. Oesterholm and J. Vilhunen	959
<b>Characterization of Gels and Thin Gel Films by X-Ray Diffraction Methods</b>	
T. Gerber, B. Himmel, U. Buttler, H. Bürger and U. Bräutigam	965
<b>Transmission Electron Microscopy: An Important Technique for the Determination of the Crystal Structure of Modulated High-<math>T_c</math> Superconductors</b>	
O. Eibl, H. Budin, P. Pongratz and P. Skalicky	971