

Volume 2

Topic IV: "Formation and Transformations
of Non-Crystalline Solids"

- G.H. Frischat, "Reactions in Non-Crystalline Solids"
(Plenary lecture) 473
- D. Ballutaud, J. Livage, C. R'kha, N. Gharbi and M.
Michaud, "Reactivity of Amorphous V_2O_5 Towards Water" 488
- G. Borchart, S. Scherrer and S. Weber, "Neutral Primary
Beam Secondary Ion Mass Spectrometry (NPB-SIMS) as a
High Resolution Analytical Technique for the Analysis
of Chemical and Isotopic Concentration Profiles in Non-
conducting Materials" 495
- H.S. Horowitz, J.M. Longo and J.T. Lewandowski, "Pre-
paration and Transformation of Non-Crystalline Pb-Ru-O
Compositions" 500
- J. Lang, R. Marchand, P. Verdier and R. Pastuszak,
"The Glassy Phase in the Ln-Si-Al-O-N System" 506
- M.J. Torralvo, J. Soria and M.A. Alario, "Non-Stoichio-
metry and the Glow Phenomenon in Zirconia Gels" 512
- Topic V: "New Aspects of Phase Transformations,
e.g. Formation of Hybrid Crystals, Non-
Diffusional Transformations, Superstructure
Ordering etc."
- V.V. Boldyrev, "The Control of the Reactivity of
Solids" (Plenary lecture) 519
- J.M. Thomas and W. Jones, "Diffusionless Reactions
in Organic Solids" (Plenary lecture) 551
- D. Beruto, A.W. Searcy, L. Barco and G. Belleri,
"Strain Induced Phenomena in $Ca(OH)_2$ Made by
Reaction of CaO with Water Vapour" 576

- E. Broclawik and J. Haber, "Formation of Metal-Metal Bonds on Crystallographic Shear in Group V, VI and VII Transition Metal Oxides" 581
- A.J. Burggraaf, T. Van Dijk and C.G.F. Stenger, "Some Effects of Order-Disorder Reactions and Hybrid Crystal Formation in Solid Solutions" 587
- C. Carel, "On a New T-P-X Diagram of Manganese Monoxide" 596
- J.G. Eon, E. Bordes, A. Vejux and P. Courtine, "Generalized Model for the Solid-Solid Reaction between Two ReO_3 -Type Oxides: Structural Influence of Coherent Interfaces" 603
- D.V. Fedoseev, B.V. Derhaguin and S.P. Vnukov, "Physico-Chemical (Colloidal) Theory of Diamond Crystallization under High Pressures" 610
- J. Guenot, M. Figlarz and H. Hanai, "Structural Defects and Phase Formation during the Reduction of Monoclinic WO_3 in H_2 " 615
- G. Van Houte and B. Delmon, "Unlocking Effect of CaCl_2 on the Fixation of SO_2 on CaCO_3 in the Presence of O_2 : Practical Aspects" 621
- J. Ignaciuk, W. Precht and J. Żmijan, "Theoretical Decomposition Model of Oversaturated $\alpha\text{Fe-N}$ Solid Solution" 627
- E. Ivanov, E. Khairtdinov and V. Boldyrev, "On the Mechanism of UV-Irradiated Ammonium Perchlorate Thermal Decomposition" 633
- M. Kosec, P. Reynen and D. Kolar, "Phase Equilibria and Sintering in the System $\text{CaO-UO}_3\text{-UO}_3$ " 638
- Y. Laurent, J. Guyader and G. Roult, "Preparation and Study of Two Allotropic Varieties of the Bianionic

Tetrahedral Compound LiSiON"	647
V. Leute, D. Lübbbers and U. Spalhoff, "Reactions and Transformations in Quasi-Binary Systems of IV-VI- and III-VI-Compounds"	652
M. Najbar and E. Bielańska, "Superficial Phase Transformation during the "Mild" Reduction of MoO ₃ /V ₂ O ₅ Solid Solution by Benzene Vapours"	657
T. Nishino, T. Sakurai and E. Yamauchi, "Alkaline Earth Ion Exchange Reaction between SrSO ₄ and BaCO ₃ "	663
G. Ohtani and M. Senna, "Formation of Metastable Phases and Related Energy Storage in II-VI Compounds on Wet Vibro-Milling"	668
R. Pampuch, W.S. Ptak, S. Jonas and J. Stoch, "The Nature of Ternary Si-O-C Phase (s) Formed during Oxidation of SiC"	674
W. Piekarczyk, W. Weppner and A. Rabenau, "Phase Equilibria and Thermodynamic Properties of the Ternary System Y-Fe-O and Dy-Fe-O"	679
G. Poli, O. Ruggeri and F. Trifirò, "The Role of Solid State Reactions in the Preparation of V-P Mixed Oxide Catalysts"	685
E. Pollert, P. Novák, T. Jiráček and M. Nevřiva, "The Cooperative Jahn-Teller Effect in Mn _x Cr _{3-x} O ₄ Spinel"	690
M.M. Ramirez de Agudelo and F.S. Stone "The Formation and Decomposition of Mixed Carbonates of Calcium and Strontium"	695
G. Roult, M. Billy, M. Brossard, P. Goursat, J.C. Labbe and A. Selvaraj, "Silicon and Aluminium Nitride and Oxynitride Structural Changes with High Pressure and Fast Neutron Irradiation"	702

H.-J. Schittenhelm, "Polymorphism of Metal Oxides Containing Vacancies under Special Reaction Conditions"	708
M. Shimada, K. Iikawa and M. Koizumi, "Preparation of (Cu _{1-x} Cr _x)S ₂ and (Cu _{1-x} Co _x)S ₂ with Pyrite Structure under High Temperature-Pressure Conditions and Their Properties"	713
V.S. Stubican and R.C. Bradt, "Directional Solidification of Oxide and Carbide Eutectics"	717
Z.G. Szabó, M. Gábor, L. Pöppel and E. Körös, "Effects of Non-Reactive and Reactive Gases on the Phase Changes in Kaolinite Structure"	723
M. Taniguchi, M. Wakihara and T. Uchida, "Non-stoichio- metry and Transformations of Vanadium Sulphide and Niobium Sulphide Phases"	729
U. Treiber, "Cation Ordering in Hexagonal Perovskites"	734
J. Ziólkowski and L. Dziembaj, "Catalytic Influence of Mn ₂ V ₂ O ₇ on the Oxidation of Mn ₃ O ₄ "	740
Topic VI: "Solid State Reactions in the Development of Novel Technologies"	
F. Nadachowski, "The Role of Solid State Reactions in the Search for Novel Refractories" (Plenary lecture)	747
R. Naslain, R. Paillet and P. Hagenmuller, "Solid State Reactions in the Processing and Use of Advanced Inorganic Composite Materials" (Plenary lecture)	766
W. Albers and L.A.H. van Hoof, "Mode of Growth and Electrical Properties of the Quasi-Binary Eutectic GaTe-CdTe Composite"	815
C.H. Andersson and R. Warren, "High Temperature Stabili- ty of Multifilament SiC Fibres in Metal Matrix Composites"	820

J.P. Auffredic, D. Ciosmak, D. Louër and J.C. Niepce, "The Relationship between Oxide Crystallite Shape and the Crystalline Structure of the Precursor in Thermal Decompositions: Case of Zinc Oxide"	826
I. Barycka and A. Misiuk, "Solid State Reactions in the Preparation of Thick Film Resistors and Conductors"	831
G. Bertrand, M. Comperat, M. Lallemand and M. Therry, "What Information Does the Shape of the Poly-crystalline Domains Produced Give on the Processes of Endothermic Decomposition of Solids"	836
J. Białoskórski, R. Pampuch and E. Walasek, "Interaction between Carbon Fibres and Liquid Silicon"	843
H. Bothe and H.K. Cammenga, "Kinetics and Energetics of the Dehydration of Crystalline Caffeine Hydrate"	851
H.M. ten Brink, H. Spoelstra, J. N. Gouman, J.A. Bontje and J.F. van de Vate, "The Reactions of Gaseous Pollutants at the Surface of Solid Airborne Pollutants"	857
M.E. Brown, G.G.T. Guarini, R. Reed and A.K. Galwey, "Form and Function of Nuclei in Decompositions of Solids"	862
E. F. Chajretdinov and J.G. Galicyn, "A New, Triboche- mically Induced Mechanism for Silver Oxalate Decom- position"	867
M. Cournil and G. Thomas, "Solid-Solid Reactions. Influence of the Gas Phase and the Preparation of Powder Mixtures"	872
B. Durand, J.M. Pâris, "Reactivity of Some Alkaline Mixed Oxides with Molten Metallic Salts. Application for the Elaboration of Mixed Oxides"	878

M. Figlarz and B. Gerand, "Reactivity of a New Hexagonal Tungsten Trioxide in the Formation of Hexagonal Tungsten Bronzes"	887
A.K. Galwey and M. E. Brown, "Thermal Decomposition of Nickel Squarate"	893
M. Ghodsi and J. Detournay, "Study of the Reactivity of Various Zinc Powders"	898
V.A. Gorbachev and S.V. Shavrin, "Some Aspects of the Development of the Reaction Surfaces during the Transformation of Haematite to Magnetite"	904
L. Gucci and F. Till, "A Novel Method to Study Solid Reactions on a Silica gel Surface"	908
J.R. Glünter, "Topotaxy as a Key to Unknown Crystal Structures: Copper (II) Formate"	913
K. Heise, G. Heise, R. Fricke and G. Öhlmann, "Studies on Catalytically Active Surface Compounds. VI. On Molecular Oxidic Phases of Diluted Supported Vanadia and Their Redox Properties"	918
M. Houalla and B. Delmon, "Some Problems of Solid State Chemistry in Catalyst Preparation"	923
T. Ishii, "Application of DTA to the Reactivity Measurements of Solids"	927
J. Janowski and J. Orewczyk, "Thermodynamic Characteristics of the Manganosite Phase"	933
V.A. Lavrenko, E.A. Pugach, V.I. Kostikov, V.V. Ogorodnik and V.S. Neshpor, "High Temperature Oxidation of Isotropic Pyrolytic Graphite in Oxygen"	939
O. Lomovsky and Yu. Mikhailov, "Thermal Decomposition of Copper Hypophosphite: Kinetics and Mechanism"	945

K. Mocek, E. Lippert and E. Erdős, "Influence of the Genesis and Particle Size of Parent Substance on the Reactivity of Solid Sodium Carbonate"	950
V. Okhotnikov, A. Chupakhin, N. Lyakhov and V. Boldyrev, "Kinetics of Rochelle Salt Dehydration"	955
H. Oshima, "Some Aspects of the Solid-Solid Reaction between MgO and V_2O_3 "	959
H.R. Oswald and A. Reller, "Facts and Fiction in the Mechanistic Interpretation of Thermal Decomposition Processes"	964
R. Pastuszak, J. Dobrowolski, J. Lang and J. David, "Synthesis of Ruthenates (IV) with Complex Cationic Sphere in Solid State"	968
D. Pirotte, P. Grange and B. Delmon, "Activation of Mo/SiO ₂ and CoMo/SiO ₂ Catalysts by Reduction-Sulphidation Reactions"	973
J. Przyłuski, A. Proń and D. Billaud, "Synthetic Metals - Reactions of NO ₂ ⁺ Salts with PF ₆ ⁻ , AsF ₆ ⁻ , SbF ₆ ⁻ and BF ₄ ⁻ Ions with Polyacetylene and Graphite"	978
M. Pszonicka, "Catalytic Erosion of Platinum-Rhodium Alloys in Ammonia Oxidation"	984
R. Streiff, "Influence of Aluminium Activity in Cement on the Structures of Coatings Deposited by Pack Aluminization on Unalloyed Nickel"	989
W. Trzebiatowski, Z. Henkie, B. Janus, P.J. Markowski, W. Suski, R. Troć, A. Wojakowski, A. Zygmunt and Z. Żołnierek, "Preparation of Uranium Compounds and Their Single Crystals"	995
P. Vincenzini, G.N. Babini and A. Bellosi, "Mechanisms	

- of Densification during the Hot Pressing of Silicon Nitride Powder Containing Magnesia and Ceria as Sintering Aids" 1001
- G. Watelle, G. Bertrand, M. Lallemand, J.C. Mutin and J.C. Niepce, "New Data and Concepts on the Mechanism of Endothermic Decomposition of Ionoco-valent Solids Eliminating a Gas" 1011
- G. Wendt, J. Finster, R. Schollner and H. Siegel, "Study of the Interactions between Nickel Oxide, Alumina and Silica" 1019
- U. Wolfmeier and W. Gunsser, "Solid State Reactions in the System Y_2O_3 - Fe_2O_3 " 1026
- B. Ziemer, F. von Lampe and K.H. Jost, "On the Mechanism of the Formation of $Ca_3O(SiO_4)$ from Ca_2SiO_4 and CaO " 1032