

Inhaltsverzeichnis

Number 1

Original Communications

- ⁷Li-NMR Studies on Molecular Motion of Hydrated Lithium Ions in Concentrated Aqueous Solutions of LiCl, LiBr, and LiSCN at Low Temperatures
T. HASEBE and K. TANAKA 1

- Dynamics of the Sulfate Ion in Dilute Water-DMF Solutions
H. NOMURA, S. KODA, and T. SAKURAI 7

- Thermodynamics and Structure of Isothiocyanate Complexes of Manganese(II), Cobalt(II) and Zinc(II) Ions in N,N-Dimethylacetamide
M. KOIDE and S. ISHIGURO 11

- On the Structure Factor for Water at Small Wavenumbers
A. D. TROKHYMCHUK, M. F. HOLOVKO, and K. HEINZINGER 18

- Structure of the Solvated Strontium and Barium Ions in Aqueous, Dimethyl Sulfoxide and Pyridine Solution, and Crystal Structure of Strontium and Barium Hydroxide Octahydrate
I. PERSSON, M. SANDSTRÖM, H. YOKOYAMA, and M. CHAUDHRY 21

- Comparison of the Structure of Liquid Amides as Determined by Diffraction Experiments and Molecular Dynamics Simulations
P. C. SCHOESTER, M. D. ZEIDLER, T. RADNAI, and P. A. BOPP 38

- Transfer Gibbs Free Energies of Divalent Anions from Water to Organic and Mixed Aqueous-Organic Solvents
Y. MARCUS 51

- Solid-Solute Phase Equilibria in Aqueous Solutions. IX. Thermodynamic Analysis of Solubility Measurements: $\text{La}(\text{OH})_m(\text{CO}_3)_q \cdot r\text{H}_2\text{O}$
H. GAMSJÄGER, H. MARHOLD, E. KÖNIGSBERGER, Y. J. TSAI, and H. KOLMER 59

- Dielectric Relaxation of NaClO_4 Solutions in Formamide, N-Methylformamide, and N,N-Dimethylformamide

J. BARTHEL, K. BACHHUBER, and R. BUCHNER 65

- The Electronic Structure of the $\text{Fe}_4\text{S}_4^{3+}$ Cluster in Proteins: The Importance of Double Exchange Parameter

M. BELINSKII, I. BERTINI, O. GALAS, and C. LUCHINAT 75

- Molecular Dynamics in the Solid Trimethylamine-Borane Complex: A Deuterium NMR Study

G. H. PENNER, B. ZHAO, and K. R. JEFFREY 81

- Is Solid State ^{91}Zr NMR Feasible?

P. HARTMANN and G. SCHELER 90

- Deuteron NMR of Methyl Groups in the Tunneling Regime. A Single Crystal Study of Aspirin- CD_3

A. DETKEN, P. FOCKE, H. ZIMMERMANN, U. HAEBERLEN, Z. OLEJNICZAK, and Z. T. LALOWICZ 95

Number 2/3

Original Communications

- Tunable Real Space Transfer Oscillator by Delayed Feedback Control of Chaos
D. P. COOPER and E. SCHÖLL 117

- Explosive Instability in Superposed Fluids in Hydro-magnetics

G. K. GILL and S. K. TREHAN 125

- The ^{33}S Nuclear Quadrupole Hyperfine Structure in the Rotational Spectrum of ^{32}S , ^{33}S Dimethyl Disulfide

H. HARTWIG, U. KRETSCHMER, and H. DREIZLER 131

- Calculations of ^{14}N and ^2H Nuclear Quadrupolar Coupling Constants for Liquid Ammonia

A. LAAKSONEN and R. E. WASYLISHEN 137



Dieses Werk wurde im Jahr 2013 vom Verlag Zeitschrift für Naturforschung in Zusammenarbeit mit der Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. digitalisiert und unter folgender Lizenz veröffentlicht: Creative Commons Namensnennung-Keine Bearbeitung 3.0 Deutschland Lizenz.

Zum 01.01.2015 ist eine Anpassung der Lizenzbedingungen (Entfall der Creative Commons Lizenzbedingung „Keine Bearbeitung“) beabsichtigt, um eine Nachnutzung auch im Rahmen zukünftiger wissenschaftlicher Nutzungsformen zu ermöglichen.

This work has been digitalized and published in 2013 by Verlag Zeitschrift für Naturforschung in cooperation with the Max Planck Society for the Advancement of Science under a Creative Commons Attribution-NoDerivs 3.0 Germany License.

On 01.01.2015 it is planned to change the License Conditions (the removal of the Creative Commons License condition “no derivative works”). This is to allow reuse in the area of future scientific usage.

Self-Diffusion in Compressed Dimethylether: The Influence of Dipole-Dipole Interaction and Hydrogen Bonding Upon Translation Diffusivity in Simple Fluids A. HEINRICH-SCHRAMM, W. E. PRICE, and H.-D. LÜDEMANN	145	Oxidation of Fe—Cr—Al and Fe—Cr—Al—Y Single Crystals H. J. GRABKE, M. SIEGERS, and V. K. TOLPYGO	217
<i>p</i> , <i>T</i> -Dependence of Self Diffusion in Mixtures of Hexane/Ethanol and Hexane/Dimethylether A. HEINRICH-SCHRAMM, W. E. PRICE, and H.-D. LÜDEMANN	149	Acceleration of Mass Transfer in Gas/Liquid-Reactions by Sonic Vibrations: Fat Hydrogenation as a Test Reaction (In German) A. BARTSCH	228
Stability of $(\text{Ni}_{1-x}\text{Li}_x)(\text{Li}_{1-y}\text{Ni}_y)\text{O}_2$ Ordered Solid Solution V. MASSAROTTI, D. CAPSONI, and M. BINI	155	Influence of Molecular Size on Adsorption Isotherms (In German) C. MEYER und D. HESSE	235
2D ^{31}P Exchange NMR: A new Approach for a Direct Probing of the Connectivities of Q^n Units in Glasses R. BORN, M. FEIKE, C. JÄGER, and H. W. SPIESS	169	The Structural and Dynamic Properties of some Transition Metal Aqua Cations: Results from Neutron Scattering G. W. NEILSON, S. ANSELL, and J. WILSON	247
A New Weak Field Double Resonance NMR Spectrometer C. AKAY and A. YALÇINER	177	A Raman Study of Alcoholic Lithium Perchlorate Solutions in the Glassy State H. KANNO, M. HONSHON, and S. YAMAUCHI	257
On the Use of Pulsed Field Gradients in a High-Field NMR Spectrometer to Study Restricted Diffusion in Zeolites J. KÄRGER, N.-K. BÄR, W. HEINK, H. PFEIFER, and G. SEIFFERT	186	The Structure of Hydroxylamine – Water Mixtures. Results of Monte Carlo Simulations S. VIZOSO and B. M. RODE	263
The Nature of the Mn Moment in Laves Phase Compounds: Evolution of the Magnetic Order in $\text{Ho}_{1-x}\text{Y}_x\text{Mn}_2$ C. RITTER, R. CYWINSKI, and S. H. KILCOYNE	191	Raman Spectral Studies of Aqueous Acidic Pyrazine Solutions A. G. BROLO and D. E. IRISH	274
A Study of the Distribution of Sodium Cations in the Zeolites NaX, NaY, and ZnNaY Using Carbon Monoxide Adsorption and ^{23}Na NMR Techniques A. SEIDEL and B. BODDENBERG	199	Photosensitized Reduction of Carbon Dioxide in Solution Using Noble-Metal Clusters for Electron Transfer N. TOSHIMA, Y. YAMAJI, T. TERANISHI, and T. YONEZAWA	283
The Anisotropy of the Molecular Reorientational Motions in Liquid Methanol R. LUDWIG, CH. RUSBÜLDT, PH. A. BOPP, and M. D. ZEIDLER	211	Raman Spectroscopic Study of the Ion Association of Lithium Sulfate Aqueous Solutions F. RULL	292
		X-Ray Diffraction Study of the Solvation Structure of the Cobalt(II) Ion in N,N-Dimethylformamide Solution H. YOKOYAMA, S. SUZUKI, M. GOTO, K. SHINOZAKI, Y. ABE, and S. ISHIGURO	301
		MD Simulation of Crystal Growth from Sodium Chloride Melt I. OKADA, T. NAKASHIMA, Y. TAKAHAGI, and J. HABASAKI	307

Effects of Pressure, Temperature, and Concentration on the Viscosity of Aqueous Ammonium Bromide Solution Y. YOSHIMURA, S. SAWAMURA, and Y. TANIGUCHI	316	Deuteron NMR Spectra of ND_4 Tunneling at Low Frequencies in $(\text{ND}_4)_2\text{SnBr}_6$ Z. T. LALOWICZ, R. SERAFIN, M. PUNKKINEN, A. H. VUORIMÄKI, and E. E. YLINEN	373
		XPS Investigations on Solid and Vacuum Deposited, Oxidized and Non-oxidized Palladium J. KINTRUP and H. ZÜCHNER	381
Number 4/5		Enhanced Sensitivity of Zero-Field NMR Spectroscopy at High Magnetic Fields H. ERNST, M. FECHTELKORD, D. FENZKE, D. FREUDE, B. KNORR, H. KOLLEY, and H. PFEIFER	388
Original Communications		Depolymerization Kinetics of Glass-Forming Chalcogenide Melts. Coherence Transfer NMR Studies of Phosphorus Selenide R. MAXWELL, H. ERICKSON, and H. ECKERT	395
Bose-Einstein Condensation and Condensate Tunneling S. GROSSMANN and M. HOLTHAUS	323	Rotational Tunnelling in Binary Tetramethylmetal Mixtures M. PRAGER, DA ZHANG, and AL. WEISS	405
On the High Ionic Conductivity of Solid Solutions of Lithium Sulphate in Hexagonal Sodium Sulphate Na_2SO_4 (I) A. LUNDÉN and L. NILSSON	327	Progress in Structural Elucidation of Glasses by ^{27}Al and ^{11}B Satellite Transition NMR Spectroscopy G. KUNATH-FANDREI, D. EHRT, and C. JÄGER	413
Model Calculations of the Structure of Ni-Nb Metallic Glasses P. LAMPARTER	329	CP/MAS NMR of Heavy Spin-1/2 Nuclei at $B_0 = 2.35 \text{ T}$ F. AMBROSIUS, E. KLAUS, T. SCHALLER, and A. SEBALD	423
Thermodynamic Analysis of Isotope Effects on Triple Points and/or Melting Temperatures W. A. VAN HOOK	337	Dynamic Behaviour of Tetramethylethylene Diamine (TMEDA) Ligands in Solid Organolithium Compounds: A Variable Temperature ^{13}C and ^{15}N CP/MAS NMR Study W. BAUMANN, Y. OPRUNENKO, and H. GÜNTHER	429
The High-Frequency Rotational Spectrum of 1,1-Dichloroethylene Z. KISIEL and L. PSZCZÓLKOWSKI	347	Critical Curves and Phase Equilibria of Binary Methanol-Systems for High Pressures and Temperatures M. NEICHEL and E. U. FRANCK	439
Computer Simulation of a Simple Model for Rotational Moment Fluctuations in an Associating Liquid H.-G. KÖHNE and M. STOCKHAUSEN	352	Polarizabilities of Isolated Silicon Clusters R. SCHÄFER, J. WOENCKHAUS, J. A. BECKER, and F. HENSEL	445
Thermodynamic Excess Functions for Quasiternary Solid Solutions of Type M (X, Y, Z). I. The System Pb(S, Te, Se) V. LEUTE	357		
^2H and ^{14}N NMR Studies of the Dynamics in the Incommensurate Phases of Betaine Calciumchloride Dihydrate U. HÄCKER, D. MICHEL, K.-P. HOLZER, and J. PETERSSON	368		

Structural Analysis of a Cs + O Coadsorption Phase on a Ru(0001) Surface M. GIERER, H. BLUDAU, H. OVER, and G. ERTL	453	Some Aspects of Spinodal Decomposition in Spinel Solid Solutions N. BURKERT, R. GRÜNE, H. SCHMALZRIED, and S. RAHMAN	525
The Phase Diagram of the Quasiternary System (Sn, Pb) (S, Te) V. LEUTE, S. BRINKMANN, J. LINNENBRINK, and H. M. SCHMIDTKE	459	SIMS Investigations on the SmCo_5D_n and LaNi_5H_n Systems R. DOBRILEIT and H. ZÜCHNER	533
Helium Atom Scattering from CF_4 , CF_3Cl , CF_2Cl_2 and CFCl_3 in Crossed Molecular Beams C. GEBAUER, O. KLEIN, R. SCHMIDT, and W. SEIDEL	468	Proton Diffusion in Strontium Cerate Ceramics Studied by Quasielastic Neutron Scattering and Impedance Spectroscopy CH. KARMONIK, R. HEMPELMANN, TH. MATZKE, and T. SPRINGER	539
Thermodynamics and Hysteresis for Hydrogen Solution and Hydride Formation in Pd-Ni Alloys T. B. FLANAGAN and H. NOH	475	Computer-Aided Arrhenius-Evaluation of Kinetic Data P. HUGO, J. LEONHARDT, and S. WAGNER	549
Ion-Ion De-Association and Association of Strong Electrolytes at High Dilution from Nuclear Magnetic Relaxation Measurements E. DETSCHER, H. G. HERTZ, M. HOLZ, and XI-AN MAO	487	On the Madelung Part of Lattice Energy. New Pathways to use it as a Tool in Solid State Chemistry (Part 1) R. HOPPE	555
Notes		Modelling of Wall-cooled Fixed-bed Chemical Reactors with One- and Two-phase Models St. HEIN and D. VORTMEYER	568
Differential Thermal Analysis and Dielectric Studies on 2-Methyl-2-Nitro-Propane under High Pressure D. BÜSING, M. JENAU, J. REUTER, A. WÜRFINGER, and J. LL. TAMARIT	502	Decomposition of Plane Waves into Irreducible Representations of Space Groups H. TEUSCHER and P. KRAMER	577
Adolf Butenandt zum Gedenken	505	Molecular Motion in Solid Tetraethyl- and Tetrapropylammonium Tetrafluoroborates B. SZAFRAŃSKA and Z. PAJĄK	584
Number 6		An Optical Method for the Determination of the Cholesteric Pitch in Liquid Crystals I. DIERKING, F. GIESSELMANN, and P. ZUGENMAIER	589
Original Communications		Dielectric Relaxation Studies of 5PCH by the Time Domain Spectroscopy Method B. GESTBLOM and S. URBAN	595
Creation and Recombination of Frenkel Defects in AgBr K. FUNKE, T. LAUXTERMANN, D. WILMER, and S. M. BENNINGTON	509	Quantum Mechanics Derived from Boltzmann's Equation for the Planck Aether F. WINTERBERG	601
Rational Interpolation Formulae for the Excess Functions of Binary Mixtures H. BRODOWSKY	521		

- ³⁵Cl NQR of Impurity Molecules of Tetrachlorides of Group IV Elements in Matrix Crystals of Group IV Element Halides
A. M. RAEVSKY, G. K. SEMIN,
and T. L. KHOTSYANOVA 606
- An X-Ray Diffraction Study on Amorphous Transition Metal-Boron Alloys Obtained by Different Preparation Methods
A. CORRIAS, G. ENNAS, G. PASCHINA,
and D. ZEDDA 672

Note

- Density Profiles at a Water/Liquid Mercury Interface
J. BÖCKER, E. SPOHR, and K. HEINZINGER 611
- Accumulation and bifurcation points of the discontinuous logistic map
T. T. CHIA and B. L. TAN 677
- Short-Range Order Details of Metaphosphate Glasses Studied by Pulsed Neutron Scattering
U. HOPPE, G. WALTER, D. STACHEL,
and A. C. HANNON 684

Number 7

Original Communications

- High-Frequency Conductivity Plateau and Ionic Hopping Processes in a Ternary Lithium Borate Glass
C. CRAMER, K. FUNKE, T. SAATKAMP,
D. WILMER, and M. D. INGRAM 613
- Determination of the Composition of TiN_x and TiB_xN_y Films by AES
M. A. BAKER, J. HAUPT, and W. GISSLER 624
- Molecular Motion in Liquids: The Partially Rigid Molecule 1,2,3,4-Tetrahydro-5,6-Dimethyl-1,4-Methanonaphthalene. Temperature Dependence of ¹³C Magnetic Relaxation and Correlation Times
U. SCHLENZ, A. DÖLLE, and H. G. HERTZ 631
- Diffusive Motion in Stage-1 and Stage-2 Li-Graphite Intercalation Compounds: Results of β -NMR and Quasielastic Neutron Scattering
A. SCHIRMER and P. HEITJANS 643
- Physical Chemistry of Hydrogenous Species in the Si-SiO₂ System
E. H. POINDEXTER 653
- The ³³S Nuclear Quadrupole Hyperfine Coupling in the Rotational Spectrum of ³³S Dimethylsulfide
U. KRETSCHMER 666
- Wiener Indices and Molecular Surfaces
I. GUTMAN and T. KÖRTVÉLYESI 669
- Action Integrals for Ellipsoidal Billiards
P. H. RICHTER, A. WITTEK, M. P. KHARLAMOV,
and A. P. KHARLAMOV 693
- Algebraic Solution of the Coincidence Problem in Two and Three Dimensions
M. BAAKE, and P. A. B. PLEASANTS 711
- Nonlinear Resonance in Neuron Dynamics
S. RADER, D. W. WHEELER, W. C. SCHIEVE,
and P. DAS 718
- On the Time-Independent Perturbation Theory
D. CAMPOS 727
- ⁸¹Br Nuclear Quadrupole Relaxation in Aluminium Tribromide
N. OKUBO, M. IGARASHI, and R. YOSHIKAWA 737
- ¹H and ¹⁹F NMR Study of Cation and Anion Motions in Guanidinium Fluoroantimonates
M. GROTTTEL, A. KOZAK, and Z. PAJÁK 742
- Chemical and Topological Short Range Order of Amorphous Ti-Si Alloys
A. POJTINGER, R. BELLISSENT, P. LAMPARTER,
and S. STEEB 749

Number 8

Original Communications

Structure and Dynamics of Crystal Solvates Hexa-phenylditin · 2X, X = Benzene, Toluene, Fluorobenzene, Chlorobenzene, and Aniline. An X-Ray, $P_{(\text{VAPOR})} = f(T)$, and ^2H NMR Study K. ECKARDT, H. FUESS, M. HATTORI, R. IKEDA, H. OHKI, and AL. WEISS	758	Comments on the Dynamical Theory of X-Ray Diffraction in Crystals H. K. WAGENFELD	813
Direct Determination of the Local Structure in Molten Alumina by High Temperature X-Ray Diffraction Y. WASEDA, K. SUGIYAMA, and J. M. TOGURI	770	Calculation of Theoretical Alpha Coefficients for XRF Analysis of Major and Minor Elements in Iron-rich Geological Samples Y. HUA and C. T. YAP	817
Solving the Schrödinger-Equation as a One-Dimensional Problem. II. Tests on One-Electron Atoms H. PREUSS, and M. PERNPOINTNER	775	Pressure Dependence of the Dielectric Anisotropy of 5CB and 6CB S. URBAN	826
Comparison of ESR Spectra of Two Cu(II) Salts in Some Amide Solutions B. ROBERS, and M. STOCKHAUSEN	779	X-Ray Diffraction with Molten $\text{Au}_x\text{Mn}_{100-x}$ -Alloys R. M. HAGENMAYER, P. LAMPARTER, and S. STEEB	831
<i>Notes</i>		NMR and FTIR Characterization of Sol-Gel Derived Ternary Oxide Glasses in the System $\text{BaO}-\text{TiO}_2-\text{SiO}_2$ M. FEIKE, K. MEISE-GRESCH, QI CHEN, and G. H. FRISCHAT	837
Static Permittivity and Association in Mixtures of Mono- and Dihydric Alcohols F. F. HANNA, A. H. SHAFIK, and M. STOCKHAUSEN	785	Nuclear Magnetic Resonance Measurements in Oil-Nitrogen Two-Phase Flow G. J. KRÜGER and A. BIRKE	845
Zur Erinnerung an Peter Sven Brauer (1911–1995)	787	Rotational Resolution in the VUV-Spectrum of CF_3I via Infrared-Ultraviolet Double Resonance Experiments A. H. BAHNMAIER and H. JONES	852
Number 9			
<i>Original Communications</i>			
Landau Theory of a System with Two Bilinearly Coupled Order Parameters in External Field: Exact Mean Field Solution, Critical Properties and Isothermal Susceptibility A. A. KORNYSHEV, D. A. KOSSAKOWSKI, and S. LEIKIN	789	Enumeration of the Staggered Conformers of Alkanes S. J. CYVIN, J. BRUNVOLL, B. N. CYVIN, and W. LÜTTKE	857
A Simplified Thermodynamic Theory for Biaxial Nematics CH. PAPENFUSS, J. VERHÁS, and W. MUSCHIK	795	Influence of Temperature and Oxygen Concentration on the Radiation Induced Oxidation of Phenylalanine P. KRAJNÍK, R. M. QUINT, S. SOLAR, N. GETOFF, and G. SONTAG	864
Bubble Formation in Superposed Magnetic Fluids in the Presence of Heat and Mass Transfer G. K. GILL, R. K. CHHABRA, and S. K. TREHAN	805	Dynamics of Nitrite Ions in the Ionic Plastic Crystal TiNO_2 studied by ^{15}N and ^{205}Tl NMR H. HONDA, S. ISHIMARU, N. ONODA-YAMAMURO, and R. IKEDA	871

EXAFS Study on the Phase Transition (Phase $\alpha' - \delta$) in CH ₃ NH ₃ I H. ISHIDA, H. MAEDA, A. HIRANO, T. FUJIMOTO, Y. KUBOZONO, S. KASHINO, and S. EMURA	876	Polarized Oxygen K α and Copper L α X-Ray Emission Spectroscopy of YBa ₂ Cu ₃ O ₇ A. KOTTMANN, R. SIEBINGER, P. LAMPARTER, and S. STEEB	935
Electronic Raman Spectra of a Low-Spin Fe ^{III} Por- phyrin and Reexamination of the Vibrational Spec- tra of K ₃ [Fe(CN) ₆] and [Fe(C ₅ H ₅) ₂]BF ₄ S. SIEVERTSEN, L. GALICH, and H. HOMBERG	881	High Resolution NMR Spectroscopy on Whole-Body Imagers: Optimized Single- and Multi-Pulse Exper- iments in Vitro F. SCHICK	942
Dielectric Properties and Characterisation of the Su- perionic Phase of [C(NH ₂) ₃] ₂ SbCl ₅ *[C(NH ₂) ₃]Cl (GHCA) J. ZALESKI, G. BATOR, and R. JAKUBAS	888	Can Twisted Internal Charge-Transfer (TICT) State be Formed in Rigid Polymers? A. KAWSKI, G. PISZCZEK, and B. KUKLIŃSKI	949
Phase Diagrams of Binary Systems of Some Alkali Iso-Butyrates with One Mesogenic Component T. A. MIRNAYA, G. G. YAREMCHUK, and S. V. VOLKOV	893	EPR of VO ²⁺ Doped Cd ₂ ZrF ₈ · 6H ₂ O Single Crys- tals G. JAYARAM and V. G. KRISHNAN	953
		Off-Resonance Nutation NQR Spectroscopy of Pow- ders N. JA. SINJAVSKY	957
		Absorption Model of Hydrogenic Atoms and Ions by Metal Surfaces O. S. ERKOVITCH, V. V. KOMAROV, A. M. POPOVA, M. ENDERLE, O. MELSHEIMER, and H. NEUMANN	961
		Phase Diagrams of Binary Systems of Non-Meso- genic Components: Caesium–Sodium and Cae- sium–Lithium Iso-Butyrates T. A. MIRNAYA, G. G. YAREMCHUCK, and S. V. VOLKOV	965
Determination of Particle Densities and Line Profiles in Plasmas by Resonance Interferometry: A Feasi- bility Study using Computer Simulated Refractivity Data C. HAAS, G. PRETZLER, T. NEGER, and H. JÄGER	902	Gibbs Transfer Energies of Some Uni-Univalent Salts in Water–N-Methyl-2-Pyrrolidinone Solvent Mix- tures at 30 °C T. K. VARADARAJAN, T. V. RAMAKRISHNA, and C. KALIDAS	969
Dynamic Modelling of Heart Beat S. GROSSMANN and S. RANFT	915		
λ -Transition to the Bose-Einstein Condensate S. GROSSMANN and M. HOLTHAUS	921		
On the Structure of Molten and Amorphous Cu _{84.3} P _{15.7} by X-Ray Diffraction R. M. HAGENMAYER, P. LAMPARTER, and S. STEEB	931	No Reduced Radioactivity of Tritium in Small Tita- nium Particles E. WICKE	975

Number 11

Original Communications

- Differential Thermal Analysis (DTA) and Dielectric Studies of 4-(trans-4-Heptyl-Cyclohexyl)-benzonitrile (7PCM) under High Pressure
T. BRÜCKERT, D. BÜSING, A. WÜRFLINGER, and S. URBAN 977
- Study of the Dielectric Properties of 7PCH (4-(trans-4-Heptyl-Cyclohexyl)-benzonitrile)
S. URBAN, B. GESTBLOM, T. BRÜCKERT, and A. WÜRFLINGER 984
- On the Analysis of Twisted Director Configurations
A. KILIAN and A. SONNET 991
- Algebraic Approach to the Fixed Point Structure of the Quantum Mechanical Dirac-Coulomb System
N. NAG and R. ROYCHOUDHURY 995
- Density and Electric Conductivity of NaCl-CoCl₂ and NaCl-NiCl₂ Molten Mixtures
A. A. RED'KIN, A. B. SALYULEV, M. V. SMIRNOV, and V. A. KHOKHLOV 998
- High Voltage Plane Cathode-Comb Anode Discharge
P. MEZEI 1003
- Surface Growth and Oxidation of Soot Particles under Flame Conditions
TH. SCHÄFER, F. MAUSS, H. BOCKHORN, and F. FETTING 1009
- Friction Drag on a Cylinder Moving in a Nematic Liquid Crystal
R. W. RUHWANDL and E. M. TERENTJEV 1023
- Three Theorems for the Spectroscopic-Kinetic Analysis of Chemical Reactions
H. MAUSER and J. POLSTER 1031
- Spin-Orbit Coupling in the O₂⁻ Anion
J. SCHIEDT and R. WEINKAUF 1041
- Spark Gap Pressure and Lasing Behaviour of a non-Blumlein type Nitrogen Laser
S. V. RODRIGUES and W. BAUMANN 1045

- Defect Chemistry of "BaCuO₂". I. Oxygen Non-Stoichiometry, Cation Molecularity and X-ray Diffraction Determinations
G. SPINOLO, U. ANSELMi-TAMBURINI, M. ARIMONDI, P. GHIGNA, and G. FLOR 1050

- Defect Chemistry of "BaCuO₂". II. Transport Properties and Nature of Defects
G. CHIODELLI, U. ANSELMi-TAMBURINI, M. ARIMONDI, G. SPINOLO, and G. FLOR 1059

Reports

- On the Paddle-Wheel Mechanism for Cation Conduction in Lithium Sulphate
A. LUNDÉN 1067

- Nuclear Physics with Antiprotons
T. VON EGIDY, F. J. HARTMANN, S. SCHMID, W. SCHMID, K. GULDA, J. JASTRZEBSKI, W. KURCEWICZ, P. LUBINSKI, L. PIENKOWSKI, A. TRZCINSKA, D. HILSCHER, W. BOHNE, F. GOLDENBAUM, U. JAHNKE, D. POLSTER, H. ROSSNER, A. S. ILJINOV, D. I. IVANOV, M. V. MEBEL, V. G. NEDOREZOV, A. S. SUDOV, J. EADES, and S. NEUMAIER 1077

Note

- Dynamic Dielectric Properties of Some Alkylamino Ethoxylates
A. SAAD, U. BECKER, M. STOCKHAUSEN, and Y. BARAKAT 1083

Number 12

- Fünfzig Jahre Zeitschrift für Naturforschung
A. KLEMM 1085

Original Communication

- Nonlinearities, Dynamics, and Fractals
J. PARISI 1089
- From Electric Field Dependent Particle Dynamics to Bistability in the Breakdown of the Quantum Hall Effect
J. RIESS 1090

Investigation of Front Propagation in an Electrochemical System: Experiments and Numerical Simulations G. FLÄTGEN, K. KRISCHER, and G. ERTL	1097	ESR of Gamma Irradiated Single Crystals of Acetylcholine Picrate and Methoxycarbonylcholine Picrate Hemihydrate M. BIREY, D. M. ZENGİN, H. AKTAS, and A. ALICILAR	1156
Attractor Merging Crisis in the Double-Scroll Oscillator B. REISNER, A. KITTEL, S. LÜCK, J. PEINKE, and J. PARISI	1105	EPR Investigation of Synthetic, Doped FeS ₂ and RuS ₂ Single Crystals M. SCHULER, J. DAHLEM, and D. SIEBERT	1159
Sliding Dynamics of the Frenkel-Kontorova Model T. STRUNZ	1108	Absorption Spectra of Co(II) Ions Doped in Magnesium Thallium Sulphate Hexahydrate A. V. SUBBAIAH, J. L. RAO, and Y. N. NAIDU	1165
Nonlinear Dynamics in the Ultradian Rhythm of <i>Desmodium motorium</i> J.-P. CHEN, W. ENGELMANN, and G. BAIER	1113	Unusual Absorption and Fluorescence Properties of p-Substituted Stilbenes in Poly(vinyl alcohol) Films A. KAWSKI, B. KUKLIŃSKI, and T. NOWOSIELSKI	1170
Dwelltime Analysis of Symmetry-Breaking Dynamical Systems J. VOLLMER, J. PEINKE, and A. OKNIŃSKI	1117	Absorption and Fluorescence Properties of p-Substituted Stilbenes in Poly(vinyl chloride) Film A. KAWSKI, B. KUKLIŃSKI, and T. NOWOSIELSKI	1175
Application of a Generalized Frobenius-Perron Operator Scheme to Multivariate Nonlinear Dynamical Systems R. STOOP and W.-H. STEEB	1123	Sub-millimeter Wave Spectra of Cyanoacetylene and Revised Ground State Constants K. M. T. YAMADA, A. MORAVEC, and G. WINNEWISSE	1179
Stable Kink-Antikink Pairs in Bistable Reaction-Diffusion Systems with Strong Nonlocalities T. CHRISTEN	1128	A Quasi-Optical Multiplier for Terahertz Spectroscopy F. LEWEN, S. P. BELOV, F. MAIWALD, TH. KLAUS, and G. WINNEWISSE	1182
An Approach to a Generalized Rössler System via Mode Analysis TH. MEYER, M. J. BÜNNER, A. KITTEL, and J. PARISI	1135	Sub-Doppler Spectroscopy of Ammonia Near 570 GHz S. P. BELOV, TH. KLAUS, G. M. PLUMMER, R. SCHIEDER, and G. WINNEWISSE	1187
Deterministic Continuous Molecular-Dynamics Simulation of a Chemical Oscillator H. H. DIEBNER and O. E. RÖSSLER	1139	Hyperfine Interaction Induced K-type Doubling in the mmw Spectrum of HS ³³ SH A. H. SALECK and G. WINNEWISSE	1191
Reversible Control of Chemical Reaction Systems A. A. HOFF, H. H. DIEBNER, and G. BAIER	1141	Cation Distribution of ZnFe ₂ O ₄ and CoFe ₂ O ₄ Spinels From Anomalous X-Ray Scattering Y. WASEDA, K. SHINODA, and K. SUGIYAMA	1199
Instabilities in a Simple Enzyme Reaction Caused by pH-Dependence G. BAIER, P. STRASSER, and U. KUMMER	1147	Semi-Empirical Fitting of Partial Pair Correlation Functions of Amorphous Alloys E. SVÁB, F. HAJDU, and GY. MÉSZÁROS	1205
Ionic Conductivity in Li ₂ O-Al ₂ O ₃ -SiO ₂ Based Glasses and Glass Ceramics P. LUNKENHEIMER, G. GERHARD, F. DREXLER, R. BÖHMER, and A. LOIDL	1151	Sachverzeichnis	1211
		Autorenverzeichnis	1216
		Inhaltsverzeichnis Nr. 1-12	I-XII