

Inhaltsverzeichnis

Number 1

Original Communications

- New Variational Formulation of Maxwell-Vlasov and Guiding Center Theories. Local Charge and Energy Conservation Laws
D. PFIRSCH 1

- Variational Formulation for Two-Fluid Plasmas in Clebsch Variables
I. L. CALDAS and H. TASSO 9

- Relaxation of Electrons in the Boundary Layer of a Weakly Ionized Plasma
A. SCHUMACHER 13

- Influence of an Orienting Field on the Viscosity of a Molecular Liquid
S. HESS 22

- Further Analyses of Infrared $^1\Pi \rightarrow ^1\Sigma$ Bands of $^{89}\text{Y}^{127}\text{I}$: New Spectroscopic Data on States up to $v''=7$ and $v'=4$
A. BERNARD and R. GRAVINA 27

- A Viscosity-Temperature Study for a Glass-Forming-Non Aqueous Electrolyte: Zinc Bromide in Ethyl Acetate
M. NICOLAS 32

- On the Quenching of Twisted Intramolecular Charge Transfer (TICT) Fluorescence by External Heavy-Atom Perturbors (In German)
W. RETTIG and M. ZANDER 41

- Fragmentation Rates of Aromatic Radical Anions and the $\pi^* - \sigma^*$ Orbital Crossing Point
H. O. VILLAR, E. A. CASTRO, and R. A. ROSSI 49

- Molecular g -Values, Magnetic Susceptibility Anisotropies, Molecular Quadrupole Moments and the Anisotropies in the Electronic Charge Distribution in HNO_2 -Cis, DNO_2 -Cis, HNO_2 -Trans and DNO_2 -Trans
D. HÜBNER and D. H. SUTTER 55

- Vibrational Dependence in the Molecular G - and Susceptibility-Tensors of Sulfur Dioxide
D. HÜBNER and D. H. SUTTER 63

- Methyl Tunnelling and Reorientation in the Solid Tetramethyl Compounds of Silicon, Germanium Tin and Lead, and in Methyl Lithium
W. MÜLLER-WARMUTH, K.-H. DUPRÉE, and M. PRAGER 66

- An Exactly Solvable Difference Equation that Gives Pure Chaos for a Continuous Range of a Parameter
T. TSUCHIYA 80

- ^{109}Ag NMR-Study of the Selective Solvation of the Ag^+ Ion in Solvent Mixtures of Water and the Organic Solvents: Pyridine, Acetonitrile, and Dimethyl Sulfoxide
L. GUINAND, K. L. HOBT, E. MITTERMAIER, E. RÖSSLER, A. SCHWENK, and H. SCHNEIDER 83

- Kinetic and Thermodynamic Study of the Acid-Catalysed Hydrolysis of Diethylmalonate in Dioxane-Water Mixtures
A. N. ASAAD and F. Y. KHALIL 95

- The Ground and Ionised States of S_2N_2 ; *Ab initio* Configuration Interaction Studies of the UV-Photoelectron Spectrum
M. H. PALMER 102

Notes

- Comments on "A Geometrical Correction for Precise Lattice Constant Determination" by Bradaczek, Leps, and Uebach
H. BERGER 109

- Proton and Fluorine Spin-Lattice Relaxation in Polycrystalline $\text{CoSiF}_6 \cdot 6 \text{H}_2\text{O}$
H. RAGER 111

Number 2

Original Communications

- To be or not to be as basic question in quantum physics (In German)
F. BOPP 113

- The Behaviour of Population in a Plasma Interacting with an Atomic Gas
U. FURUKANE and T. ODA 132



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.

Borel Summation Method and First Order Perturbation Formula for the Potential $V(r) = F/r^2 + G/r + H/(r+z^2)$ R. K. ROY CHOUDHURY and B. GHOSH	142	Photochemistry of Nitracrine and its Analogues: Acridine Derivatives as Electron Donors J. BIEDRZYCKI, J. BŁAŻEJOWSKI, J. SZYCHLIŃSKI, and A. LEDŃCHOWSKI	195
High Temperature NMR Study of ^{51}V and ^{195}Pt in the V_3Pt Compound R. RÜNGER and D. PLOUMBIDIS	145	<i>Notes</i> Knight Shift in the V_3Ga Compound at High Temperatures R. RÜNGER and D. PLOUMBIDIS	201
Nuclear Magnetic Resonance Studies of Liquid Semiconducting Sb-Te Alloys V. HINKEL and D. PLOUMBIDIS	148	Nuclear Magnetic Resonance Investigations in Liquid In-Ni Alloys I. SENEL and D. PLOUMBIDIS	203
Topological Studies on Heteroconjugated Molecules. A New Pairing Theorem I. GUTMAN	152		
		Number 3	
Vibrational Spectra and Force Constants of Symmetric Tops, XXXVII [1]. High Resolution Infrared Investigation of Unstable H_3SnCl in the ν_1/ν_4 Region Near 1900 cm^{-1} M. BETZEL, H. BÜRGER, and P. SCHULZ	155	<i>Original Communications</i> Quantum Physical State Space in Continua (In German) F. BOPP	205
Study by Numerical Simulation of the Structural and Dynamical Properties of the Fused LiCl-KCl Eutectic F. LANTELME and P. TURQ	162	Proton NMR Studies and Lineshape Simulations of the Mesophases of Terephthalylidene-Bis-4-n-propylaniline (TBPRA) – Evidence for Conformational Changes ST. LIMMER and M. FINDEISEN	218
Ab Initio Calculations of the Molecular Structures and the Electronic Properties of Phospha-Alkynes $\text{R}-\text{C}\equiv\text{P}$ ($\text{R} = \text{H}, \text{CH}_3, \text{NH}_2, \text{OH}, \text{F}$ and Cl) M. T. NGUYEN	169	Model Calculations on One-Dimensional (1D) Poly-Decker Sandwich Compounds. A Crystal Investigation Based on the Tight-Binding Formalism M. C. BÖHM	223
Ab initio CI Study of the Ground and Excited States of CuF_2 and CuCl_2 T.-K. HA and M. T. NGUYEN	175	Diffusion Measurements with the Gravimetric Method in Solutions and in Molten Alkali Nitrates F. VAN DER GRAAF and J. A. A. KETELAAR	247
The Effect of Pressure on the Hydrogen Bond Structure of Liquid Water G. PÁLINKÁS, P. BOPP, G. JANCsó, and K. HEINZINGER	179	The Influence of a Static Magnetic Field on the Optical Properties of Chiral Molecules G. WAGNIÈRE	254
Some Considerations on the Role of Water in Thin Layer Chromatography of Inorganic Anions T. IIDA and K. ITO	186	High Temperature Study of Molecular Motion in Polyphenylene Sulfide by Thermally Stimulated Currents J. JURGA, P. HRUSZKA, B. HILCZER, and J. KULEK	262
Crystal Structure and Vibrational Spectrum of PrPS_4 C. WIBBELMANN, W. BROCKNER, B. EISENMANN, and H. SCHÄFER	190	Protonation of 4H-Pyran-4-one and its Sulfur Analogues. MNDO Study M. ECKERT-MAKSIĆ	267

Topological Properties of Benzenoid Systems. XXIV. Computing the Sextet Polynomial I. GUTMAN and S. EL-BASIL	276	Phase Transition in 4-(CH ₃)C ₆ H ₄ NH ₃ ⁺ X ⁻ (X = Br, I) V. SESHU BAI and AL. WEISS	366
A Microscopic Study of Motions in Supercooled 1,3- Butanediol M. SOLTWISCH, F. SCHNEIDER, and D. QUITMANN	282	Magnetic Properties of Diaquabis(phenoxyacetato)- manganese(II) and Related Complexes T. ASAJI, K. AOKI, and D. NAKAMURA	371
Nonlinear Evolution of External Ideal MHD Modes Near the Boundary of Marginal Stability E. REBHAN	288	Quantum Chemical Investigations on Solvated NaCl Adducts B. M. RODE and J. P. LIMTRAKUL	376
		Semiempirical Calculations on the Solvent Depen- dence of the S _E -reactivity of Benzo[1.3]dioxole G. RAABE und J. FLEISCHHAUER	381
Number 4		MNDO Studies on Electron Affinity and Ionization Potentials of Polycyano Derivatives of some Un- saturated Hydrocarbons and Benzene J. MIREK and A. BUDA	386
<i>Original Communications</i>			
Surface Forces of the Electric Field Induced Flow in Nematic Liquid Crystals J. GRUPP	309	Dissociative Ionization and Metastable Ions of Ni- trobenezene and Nitrobenzene-d ₅ F. H. ABD EL-KADER and H. M. AHMED	391
A Simple Approximation for Axially Symmetric Dif- fraction of Plane Shocks by Cones S. YU and H. GRÖNIG	320	<i>Notes</i>	
The Magnetic Booster Target Inertial Confinement Fusion Driver F. WINTERBERG	325	A Second Integral of Motion in a Triaxial Galaxy N. CARANICOLAS	395
Analytical Results on a Chaotic Piecewise-Linear O.D.E. B. UEHLEKE and O. E. RÖSSLER	342	On the Concentration Dependence of the Benzophe- none-sensitized Naphthalene Phosphorescence in a Hydrocarbon Glass at 77 K (In German) M. ZANDER	397
Calculation of Infrared Transition Probabilities for the ¹ Σ ⁺ Groundstate of XeH ⁺ R. KLEIN and P. ROSMUS	349	<i>Report</i>	
A Microwave Fourier Transform Spectrometer for the Lower K-band W. STAHL, E. FLIEGE, H. DREIZLER, and R. SCHWARZ	354	Spectroscopic Investigation of the High Pressure Ethylene Polymerization M. BUBACK	399
Crystal Structure and Vibrational Spectra of Pb ₂ P ₂ Se ₆ (In German) R. BECKER, W. BROCKNER, and H. SCHÄFER	357	Errata	412
The Liquid Crystal Region in Cesium Soaps M. SANESI and P. FRANZOSINI	362	Number 5	
		<i>Original Communications</i>	
		Triplet States in Isotopically Mixed Naphthalene Crystals: High Resolution Optical Spectroscopy U. DOBERER and H. PORT	413

Studies by the Electron Cyclotron Resonance- (ECR)-Technique. XVI. Interactions of Thermal- Energy Electrons with the Molecules HNO_3 and ClNO_3 (In German)	Preferential Solvation of Silver(I) Bromate in Me- thanol-Dimethylsulfoxide Mixtures	
D. WECKER and R. N. SCHINDLER	S. JANARDHANAN and C. KALIDAS	600
542		
	<i>Notes</i>	
A Pulsed Proton Magnetic Resonance Study of Some Organic Compounds	Inverse Methods and Relative Nuclear Radii	
F. KÖKSAL and S. BAÇÇELI	E. F. HEFTER and I. A. MITROPOLSKY	603
548		
On the Dependence of Stark Width and Shift on the Ionization Potential		
M. S. DIMITRIJEVIĆ and N. KONJEVIĆ		553
553		
	Number 7	
Luminescence of 5-Phenyltetrazole and its Deriva- tives. Part II. Phosphorescence	<i>Original Communications</i>	
I. GRZYCHŃSKI, A. KAWSKI, Z. GRZONKA, and A. RAŻYŃSKA	On the Mechanism of Spin Reorientation in YIG:Si	
556	C. RUDOWICZ	605
Millimeter-Wave Spectrum of Ethyl Formate		
J. DEMAISON, D. BOUCHER, J. BURIE, and A. DUBRULLE	^{23}Na Nuclear Magnetic Relaxation Times in Pig Tissue	
560	U. BRÄNDLE, E. KAMMERER, D. KÖHNLEIN, and O. LUTZ	615
Resistometric Evidence of Diffusional Mixing in Concentration Layered Amorphous AgCu Films		
I. M. REDA, A. WAGENDRISTEL, and H. BANGERT	Magnetization Measurements on Iron (III) Solutions for Detecting Oligomer Formation	
565	F. RODRIGUEZ, M. MORENO, and J. C. GÓMEZ SAL	617
On Deuling's Transition in a Nematic Liquid Crystal		
G. BARBERO and A. STRIGAZZI	Bending of Acoustic Rays in a Spherically Symmet- ric Field – A Comparison with Sjödin's Approach	
571	K. K. NANDI	623
Freedericksz Transition in Hybrid Aligned Nematic Liquid Crystal Cell		
G. BARBERO	Glow Discharge Enhancement by Shock Waves	
575	S. MIYASHIRO	626
Collision-Induced Decomposition of Multiatomic Ions		
G. M. NEUMANN, M. M. SHEIL, and P. J. DERRICK	Deuterium Hyperfine Structure of Nitric Acid – ^{15}N	
584	E. FLIEGE and H. DREIZLER	630
Ab Initio-Calculations on the Protonaffinity of Un- branched Primary Aliphatic Amines (In German)		
E. HEYNE, G. RAABE, and J. FLEISCHHAUER	A Contribution to the Investigation of T_2 -Relaxa- tion: Rotational Transitions of OCS and SO_2	
593	S. C. MEHROTRA, G. BESTMANN, H. DREIZLER, and H. MÄDER	633
Concentration Fluctuations in Liquid Sodium-Caesii- um Alloys		
L. J. GALLEG0 and J. A. ALONSO		596

Internal Rotation Analysis of the Ground State	Notes
Microwave Spectrum of 2-Bromopropene E. FLIEGE and H. DREIZLER 637	ESR Study of Molecular Ordering in PEBAB and PMBAB N. V. S. RAO, V. G. K. M. PISIPATI, P. V. DATTA PRASAD, and D. SARAN 700
Dielectric Relaxation in Methanol-Acetonitrile Mixtures M. STOCKHAUSEN and E. DACHWITZ 646	
Number 8	
Proton NMR Studies of the Smectic-G Phase of Terephthalylidene-Bis-4-n-propylaniline (TBPrA) ST. LIMMER and M. FINDEISEN 651	<i>Original Communications</i>
Observation of Direct Phase Transition Smectic A $\leftrightarrow$ Blue Phase in a Liquid Crystalline Mixed System H. ONUSSEIT and H. STEGEMEYER 658	Bound State Solutions of the Klein-Gordon Equation for Strong Potentials W. FLEISCHER and G. SOFF 703
Photokinetic Examinations of Photochromic Systems as Dihydroindolizines (In German) R. BÄR, G. GAUGLITZ, R. BENZ, J. POLSTER, P. SPANG, and H. DÜRR 662	Relativistic Generalisation of the Lenz vector (I) (In German) E. KERN 720
Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. I. Dibenzochrysene and Dibenzanthracenes Z. H. KHAN 668	Relativistic Generalisation of the Lenz vector (II) (In German) E. KERN 733
Quantumchemical Calculations on Borine (Borabenzene) (In German) G. RAABE, E. HEYNE, W. SCHLEKER, and J. FLEISCHHAUER 678	DSC and X-Ray Study on $Gd_2(MoO_4)_3$ G. FLOR, V. BERBENNI, A. MARINI, V. MASSAROTTI, and R. RICCARDI 748
Molar Heat Capacity of AgI: Evaluation of the Cationic and Anionic Contributions from Thermoelectric Power Data A. SCHIRALDI and P. BALDINI 682	Refractive Index of Molten $LaCl_3$ -KCl, $LaCl_3$ -NaCl, and $LaCl_3$ - $CaCl_2$ Mixtures K. IGARASHI, Y. IWADATE, J. MOCHINAGA, and K. KAWAMURA 754
Theoretical Studies on the Effect of N-Substitution on the Hydrogen Bonds of Metal Ion/Water/Amide Complexes K. P. SAGARIK and B. M. RODE 686	The Internal Mobilities of the Molten Binary System (Rb-Cs) NO_3 R. TAKAGI, K. KAWAMURA, and I. OKADA 759
Elementary Derivation of the Dirac Equation. VI H. SALLHOFFER 692	Electrolytic Conductivity of Pure and Doped Molten Silver Chloride G. G. W. GREENING and K. G. WEIL 764
Phase Transition Studies in PMBAB and PEBAB V. G. K. M. PISIPATI and N. V. S. RAO 696	Observation of Stacking Disorder During the Oxidation of Second Stage to First Stage Graphite Hydrogensulfate (In German) K. Y. SHIN and H.-P. BOEHM 768
	The Refined Structure of ThS_2 and the Implications on the Superposition Model Analysis of ThS_2 : Gd^{3+} Spin Hamiltonian Parameters G. AMORETTI, G. CALESTANI, and D. C. GIORI 778

Lattice Dynamics of Compounds with Matlockite-Type Structure (In German) H. HAEUSELER and G. SCHNEIDER	783	The Microwave Spectrum of Excited Vibrational States of CF_3NC D. CHRISTEN and K.-J. RAMME	865
Studies of the Low Temperature Conformation of Phenoxyls by ESR, ENDOR, and TRIPLE-Resonance (In German) K. SCHEFFLER, H. B. STEGMANN, CH. ULRICH, and P. SCHULER	789	Vibrational Spectra and Force Constants of Symmetric Tops, XLIII [1] Fourier Transform Infrared Spectra of Monoisotopic H_3GeBr Species in the ν_1/ν_4 and ν_6 Region H. BÜRGER, R. EUJEN, A. RAHNER, P. SCHULZ, and S. CRADOCK	871
Note on Algebraic Structure Count I. GUTMAN	794	MD-Simulation of Molten LiCl; Self-Exchange Velocities of Li-Isotopes near Cl^- -Ions I. OKADA	880
Topological Properties of Benzenoid Systems XXIX. On Hosoya's Topological Index I. GUTMAN and A. SHALABI	797	Effect of Solvents and Temperature on O-H stretching Band of Methanol: Measure of van der Waals Interactions W. A. P. LUCK and H. Y. ZHENG	888
Pressure Dependence of the Melting and Self Diffusion in 2,2-dimethylpropane, 2,2-dimethylpropionitrile, and 2-methylpropanol-2 M. WOZNYJ, F. X. PRIELMEIER, and H.-D. LÜDEMANN	800	Kinetics and Mechanism leading to Dimeric Redox Products of 4-Nitrosobenzaldehyde in Alkaline Dioxane-Water Media Y. RIAD, ADEL N. ASAAD, G.-A. S. GOHAR, and A. A. ABDALLAH	893
Number 9			
<i>Original Communications</i>			
Symmetry Violations in Partially Oxidized One-Dimensional (1D) Transition Metal Polymers. Metal-Ligand-Metal (M-L-M) Bridged Systems M. C. BÖHM	807	Reaction-Diffusion Dissipative Systems – Detailed Stability Analysis – Pattern of Growth and Effect of Inhomogeneity P. J. NANDAPURKAR, V. HLAVACEK, J. DEGREVE, R. JANSSEN, and P. VAN ROMPAY	899
Integrability of Non-KAM Hamiltonians A. SALAT	830	<i>Notes</i>	
Liquidus Curves of Eutectic NaK and NaCs Systems L. J. GALLEG0, J. M. LÓPEZ, and J. A. ALONSO	842	Soliton Connection of the sinh-Gordon Equation A. GRAUEL	917
Measurements of the Rate Constant of the Reaction $\text{NH}_2 + \text{CH}_4 \rightarrow \text{NH}_3 + \text{CH}_3$ behind Incident Shock Waves (In German) W. MÖLLER and H. GG. WAGNER	846	Number 10	
Millimeterwave Spectrum and Centrifugal Distortion Analysis of Fluoroacetonitrile in the Ground State A. GUARNIERI and G. TOLKMIT	853	<i>Original Communications</i>	
Two-Dimensional Microwave Fourier Transform Spectroscopy W. STAHL, E. FLIEGE, and H. DREIZLER	858	Variationally Determined Occupation "Numbers" in an Extended Thomas-Fermi Scheme A. M. K. MÜLLER	919
		The Influence of the Chemical State on K x-Ray Intensities T. ROSE, G. L. BORCHERT, and O. W. B. SCHULT	924
		Langmuir's Helium-Like Models Revisited M. S. DIMITRIJEVIĆ and P. V. GRUJIĆ	930

Rayleigh-Taylor Instability of a Stratified Magnetized Medium in the Presence of Suspended Particles R. K. CHHAJLANI, R. K. SANGHVI, and P. PUROHIT	939	Formation of Carbon Dioxide in the Belousov-Zhabotinsky-Reaction H. D. FÖRSTERLING, H. IDSTEIN, R. PACHL, and H. SCHREIBER	993
Search for Streaks in Electron Diffraction Patterns of Strontium Titanate G. ARENAS and J. GEIGER	945	The Endoperoxide of Tetrabenzopentacene. A New Photochromic Endoperoxide R. SCHMIDT	998
Influence of the Reversible Energy Transfer on the Donor Fluorescence Quantum Yield in Donor-Acceptor Systems C. BOJARSKI	948	Determination of Dipole Moments by Microwave Fourier Transform Spectroscopy. Trifluoropropine, Tert. Butylisocyanide, and Cyanoacetylene W. KASTEN and H. DREIZLER	1003
Influence of Internal Heavy Atoms on the Spectroscopic Properties of 9-Acetoxy-10-Phenylanthracene Derivatives J. R. HELDT	952	<i>Notes</i>	
Luminescence of 5-Phenyltetrazole and its Derivatives Part III. Quantum Yields and Mean Lifetimes of Fluorescence I. GRZYCZYŃSKI, A. KAWSKI, A. RAŻYŃSKA, and Z. GRZONKA	960	An Improved Variational Calculation of the Lower Vibrational Energy Levels of the Ammonia Molecule B. MAESSEN, P. BOPP, DON R. McLAUGHLIN, and M. WOLFSBERG	1005
Kinetics and Mechanism of Hübnerite (MnWO_4) and Ferberite (FeWO_4) Crystallization under Hydrothermal Conditions J. CHR. BUHL and A. WILLGALLIS	963	Weak Non Linearity and Magneto-Acoustic Waves S. BHATTACHARYYA and R. R. CHOUDHURY	1007
Electronic Spectra of Fluoro-Chloro-Iridates (IV), $[\text{IrF}_n\text{Cl}_{6-n}]^{2-}$, $n = 1-5$ (In German) W. PREETZ and D. TENSFELDT	966	Photoluminescence of $[2_2]$ Paracyclophane and <i>p</i> -Xylene in the Presence of Silver Ions M. ZANDER	1009
Dolomite Decomposition to (Ca,Mg)O Solid Solutions: An X-Ray Diffraction Study, Part I. G. SPINOLO and U. A. TAMBURINI	975	Number 11	
Dolomite Decomposition to (Ca, Mg)O Solid Solutions: An X-Ray Diffraction Study, Part II. G. SPINOLO and U. A. TAMBURINI	981	<i>Original Communications</i>	
Carboxylic Acid-N Base Hydrogen Bonds with Large Proton Polarizability in Acetonitrile as a Function of the Basicity of the Hydrogen Bond Acceptors G. ALBRECHT and G. ZUNDEL	986	Asymptotic Solution Near Focus of a Two-dimensional Shock and Instability Near Axis of a Cylindrical Shock with CCW Approach SHANBING YU	1011
		Hamiltonian Formulation of Two-Dimensional Gyroviscous MHD P. J. MORRISON, I. L. CALDAS, and H. TASSO	1023
		On the Continuum Between the Solid and the Liquid State G. SÜSSMANN	1028
		Excited-state Reactions of 4-methylumbelliferone Studied by Nanosecond Fluorometry A. BALTER and O. ROLIŃSKI	1035

Experimental Study of the Stark Broadened Helium Ion Lines HeII 121.5, 164.0 and 468.6 nm A. PIEL and J. SLUPEK	1041	^{14}N Nuclear Quadrupole Coupling in Glycyl-Glycine and Related Peptides M. PALMER	1108
On the Infrared $A^2\Pi_1-X^2\Sigma^+$ System of Aluminium Monoxide in Relation with the Spectra of M Giant- and Mira-Type Stars A. BERNARD and R. GRAVINA	1049	NMR Behaviour of Molten $^{115}\text{Indium}$ Chlorides C. MARGHERITIS	1112
ESR of the $\cdot\text{CD}_3 \dots \text{I}^-$ adduct in γ -irradiated $^{12}\text{CD}_3\text{I}$ and $^{13}\text{CD}_3\text{I}$ Crystals O. CLAESSON and A. LUND	1056	Sensitized IR Emission of the Trivalent Rare Earths in $\text{Sr}_3\text{La}_2\text{W}_2\text{O}_{12}$ (In German) R. BRAUN and S. KEMMLER-SACK	1115
EPR Data on Ni(II) Doped Cu(II) Acetate Monohydrate Single Crystals: Evidence of $\text{Ni}^{2+}-\text{Cu}^{2+}$ Exchange-Coupled Pairs E. BULUGGIU	1061	Raman-Spectra of Molten $\text{Ti}_2\text{P}_2\text{S}_6$ R. BECKER und W. BROCKNER	1120
Anchoring Energy for Nematic Liquid Crystals an Analysis of the Proposed Forms G. BARBERO, N. V. MADHUSUDANA, and G. DURAND	1066	Self-Consistent Density Functional Approach to a Metal/Electrolyte Solution Interface A. A. KORNYSHEV, M. B. PARTENSKII, and W. SCHMICKLER	1122
Order-Disorder Transitions in the Vanadium-Hydrogen System Measured by Perfect-Crystal Neutron Small-Angle Scattering A. MIKŠOVSKY, H. RAUCH, E. SEIDL, and W. WACHTER	1077	Emission Continua in M+M Collisions (M=Zn, Cd) A. KOWALSKI	1134
A Simple Incremental Scheme for the Determination of Charges in Nonaromatic Molecules (In German) W. SCHLEKER, B. SCHMIDT, W. MERTENS, and J. FLEISCHHAUER	1082	<i>Notes</i> Elementary Derivation of the Dirac Equation. VII H. SALLHOFFER	1142
A Novel Method Capable of Resolving Rotational Ionic States by the Detection of Threshold Photoelectrons with a Resolution of 1.2 cm^{-1} K. MÜLLER-DETHLEFS, M. SANDER, and E. W. SCHLAG	1089	Subchromophore Recognition in Some New Luminophores F. FRATEV, V. ENCHEV, P. NIKOLOV, and O. E. POLANSKY	1143
Molecular Electric Quadrupole Moment, Magnetic Susceptibility Tensor and Deuterium Quadrupole Coupling Constant in Cyanoacetylene W. H. STOLZE and D. H. SUTTER	1092	Note on the Influence of External Heavy-Atom Perturbers on the Phosphorescence Spectrum of Triphenylene M. ZANDER	1145
Quadrupole Hyperfine Structure of the Direct I -Type Doubling Spectrum of Hydrogen Cyanide by Microwave Fourier Transform Spectroscopy E. FLIEGE, H. DREIZLER, A. P. COX, and S. D. HUBBARD	1104		

Number 12

Original Communications

The Quantum Mechanical Measuring Process as a Scattering Phenomenon Inducing a Collective Coherent Motion M. REQUARDT	1147
Total Scattering Cross Section of Solids for Cold and Epithermal Neutrons J. R. GRANADA	1160

The β^+ Decay of ^{234}Np and Other Isospin-Forbidden $0^+ \rightarrow 0^+$ Fermi Transitions C. T. YAP and E. L. SAW	1168	Cation Transport in Low Density Ethene and Cyclopropane Gases N. GEE, M. A. FLORIANO, and G. R. FREEMAN	1225
Analytical Evaluation of the Hadron Number in Extensive Air Showers for Rising Inelasticity J. SIDHANTA and R. ROYCHOUDHURY	1172	Photoelectron Spectroscopy of Heterocycles. Phenyl-oxiranes H. GÜSTEN, L. KLASINC, I. NOVAK, and M. ŠANJEK	1230
X-Ray Emission and Absorption Spectroscopy with Binary Amorphous Alloys from the B-Co-, B-Ni-, Co-P-, Co-Ti-, Cu-Mg-, Cu-Ti-, Mg-Zn-, Ni-P-, and Ni-Ti-Systems S. FALCH, P. LAMPARTER, and S. STEEB	1175	An ^{27}Al and ^{13}C N.M.R. study of the Complexes between Al^{3+} and Various Organic Molecules Containing the Amide Group in Concentrated Aqueous Solution R. CAMINITI, G. CRISPONI, V. NURCHI, and A. LAI	1235
Note and Bond Orders C. D. GODSIL and I. GUTMAN	1184	The Absorption Behavior of Water and Some Organic Liquids in the Near Infrared Studied by Photoacoustic Spectroscopy U. HAAS and H. SEILER	1242
Rotational Excitations and Tunnelling of Non-Equivalent Methyl Groups in $\text{Pb}(\text{CH}_3)_4$ M. PRAGER and M. MÜLLER-WARMUTH	1187	Theoretical Determination of the Ground State Geometry of 1,3,5-Triphenylbenzene J. CIOŚŁOWSKI	1250
Observation of Structural Instabilities in a Sheared Cholesteric G. BARBERO, R. BARBERI, F. SIMONI, and R. BARTOLINO	1195	The Interactions in the Benzene Dimer in a Supersonic Jet: Study of the S_1 level with isotopic labeling K. O. BÖRNSSEN, H. L. SELZLE, and E. W. SCHLAG	1255
Chaos as a Limit in a Boundary Value Problem C. KAHLERT and O. E. RÖSSLER	1200	Some Considerations About Bond Indices in Non-orthogonal Bases and MO Calculation of Valence and Oxidation Number M. S. DE GIAMBIAGI, M. GIAMBIAGI, and F. E. JORGE	1259
Correlation of Zero Field Splittings and Site Distortions. VII. FeCl_4^- in CsGaCl_4 with Crystal Structure Refinement R. BÜSCHER, G. LEHMANN, G. HENKEL, and B. KREBS	1204	Charge Transfer Complexes of Aromatic Nitrocompounds with Disubstituted Naphthalenes. I. Spectroscopic Investigation of the Donor Behaviour of the 2,6- and 2,3-Dimethylnaphthalene M. H. ABDEL-KADER, R. M. ISSA, M. M. AYAD, and M. S. ABDEL-MOTTALEB	1274
CI Calculations of X-ray Scattering Intensities for some Linear Molecules [1] M. BREITENSTEIN, H. MEYER, and A. SCHWEIG	1208	Determination of Ultrasonic Absorption and Velocity and the Derived Thermodynamic Properties of Pure and Binary Molten Salts W. FUCHS and J. RICHTER	1279
Investigation of T_1 -Relaxation by a Microwave Pulse Technique for HCCC^{15}N Rotational Transitions H. BOMSDORF and H. MÄDER	1212	Notes Comment on "Collective Ion Acceleration by Relativistic Electron Rings in the Magnetosphere" F. WINTERBERG	1292
Temperature Dependence of the ^{127}I -Nuclear Quadrupole Coupling in Tetramethylammonium-periodate $(\text{CH}_3)_4\text{NIO}_4$ D. G. KLOBASA and P. K. BURKERT	1222		

Comment to the Reply by Schumacher and Boswell About Their Proposed Magnetospheric Electron Ring Experiment F. WINTERBERG	1293	L_{α} Emission from Low-Energy Collisions $H^+ + Ar$, $H_2^+ + Ar$, $H^+ + H_2$ CH. OTTINGER and M. YANG	1296
		Erratum	1298
Observation of a "Missing" Mode in Pyrite by the ATR-Method (In German) M. BEHMER	1294	Sachverzeichnis Authors Index	1299 1305