

March 12, 1976

AMP NEWS BULLETIN

Progress Report

1. The committee is working on the statutes for the society so that by about the end of the year the society can be founded and we will ask for membership.
2. Springer has agreed to give a 50% reduction for the subscription to the Communications of Mathematical Physics for members of the society. People interested in this deal should notify me so that I can inform Springer about the number of people subscribing. A similar arrangement is being negotiated for the Reports on Mathematical Physics.
3. If you want to make sure that your preprints for the News Bulletin does not get confused with others please mark them with AMP.
4. Although there has been some response to our soliciting for conference information, there are still many conferences going on of which I only know by chance or rumor. Of course, we don't want to prevent exclusive or even secret conferences. One should keep in mind, however, that displacement of many competent people is always a considerable financial investment and it is a pity, if only a very small fraction of the scientific community can benefit from it. Please indicate also, if conference proceedings are envisaged.

W. Thirring

Preprints

- H. Araki: Relative Entropy and its Applications
Inequalities in von Neumann Algebras
Relative Entropy of States of von Neumann Algebras
Kyoto University
- A. Mardin, R.F. Streater: On the Spinor Rank of Fermi Fields
ZiF, University of Bielefeld
- E. Mourre: Applications de la methode de Lavine au probleme a trois corps
CNRS, Marseille
- J. Fröhlich: Quantum Sine-Gordon Equation and Quantum Solitons in Two-Space-Time Dimensions
Classical and Quantum Statistical Mechanics in One and Two Dimensions:
Two Component Yukawa and Coulomb System
New Super-Selection Sectors (Soliton States) in Two Dimensional Bose
Quantum Field Models
Princeton University
- M. Schechter, R.A. Weder: The Schrödinger Operator with Magnetic Vector Potential
ETH Zürich
- W.L. Van Neerven, R.P. Van Royen: A Calculation of the Critical Exponents in Three Dimensions
Sint Stanislas College, Delft

- M. Bouziane, Ph.A. Martin: Bogoliubov Inequality for Unbounded Operators and the Bose Gas
EPF, Lausanne
- W. Ochs: Basic Properties of the Generalized Boltzmann-Gibbs-Shannon Entropy
A Unique Characterization of the Generalized Boltzmann-Gibbs-Shannon Entropy
Universität München
- W. Ochs, H. Spohn: A Characterization of the Segal Entropy
Universität München
- O. Bratteli, D.W. Robinson: Green Functions, Hamiltonians and Modular Automorphisms
ZiF, Bielefeld
- Y.M. Park: Convergence of Lattice Approximation and Infinite Volume Limit in the $(\lambda\varphi^4 - \alpha\varphi^2 - \mu\varphi)_3$ Field Theory
ZiF, Bielefeld
- J.L. Bonnard, R.F. Streater: Local Gauge Models Predicting Their Own Superselection Rules
ZiF, Bielefeld
- A. Frigerio, V. Gorini: N-Level Systems in Contact with a Singular Reservoir II
University of Milano
- W. Holsztynski, J. Slawny: Phase Transitions in Ferromagnetic Spin Systems at Low Temperatures
Princeton University
- F. Dunlop: Correlation Inequalities for Multicomponent Rotators
IHES, Bures
- G.G. Emch: Non-Equilibrium Quantum Statistical Mechanics
ZiF, Bielefeld
- D. Baumgarten, G. Brauns, O. Wagner: Causal Solutions of Nonlinear Wave and Spinor Equations Obtained by Gel'fand-Shilov Regularization
Universität Gießen
- C. DeWitt-Morette: The Semi-Classical Expansion
Catastrophes in Lagrangian Systems - A
University of Texas, Austin
- M. Casartelli, E. Diana, L. Galgani, A. Scotti: Numerical Computations on a Stochastic Parameter Related to the Kolmogorov Entropy
Parma University
- J. Dimock, J.P. Eckmann: On the Bound State in Weakly Coupled $(\varphi^6 - \varphi^4)_2$
University of Geneva
- A. Uhlmann: On Some Generalization of the Griffith Inequality (in Russian)
Dubna
- T. Küpper: Pointwise Lower and Upper Bounds for Eigenfunctions of Ordinary Differential Operators
Battelle, Geneva

- J. Weyer: On Domains of Maximal Monoton Operators
Battelle, Geneva
- N.W. Bazley: Approximation of Operators with Reproducing Nonlinearities
Battelle, Geneva
- J. Glimm, A. Jaffe, Th. Spencer: Phase Transitions for φ_2^4 Quantum Fields
Existence of Phase Transitions for φ_2^4 Quantum Fields
Rockefeller University, New York
- P.C. Sabatier: Positivity Constraints in Linear Inverse Problems, II Applications
Montpellier
- S. Blaha: Quantization Rules for Point Singularities in Superfluid He³ and Liquid Crystals
Syracuse University
- E.H. Lieb, B. Simon: The Thomas-Fermi Theory of Atoms, Molecules and Solids
Princeton University
- B.M. Gurevich, I.M. Suhov: Stationary Solutions of the Bogoliubov Hierarchy Equations
in Classical Statistical Mechanics II
CNRS Marseille
- I.M. Souhov: Random Point Processes and Dobrushin-Lanford-Ruelle Equations
CNRS Marseille
- D.W. Robinson: Bose-Einstein Condensation with Attractive Boundary Conditions
CNRS Marseille
- R. Behling, A. Bongers, T. Küpper: Upper and Lower Bounds to Critical Values of the
Hartree Operator
Universität Köln
- H.W. Melzer, G.P. Christ: Über die Grundzustände eines nichtlinearen maximal
monotonen Potentialoperators
Universität Köln
- E. Gal-Ezer, L.P. Horwitz: Null-Plane Charges and Fourier Transforms, and the Asymptotic
Behaviour of Scattering Amplitudes
Charges as Null Plane Integrals over Tensor Densities
Mass Splitting in Relativistic Quantum Field Theory
Space-Like Charges, Null Plane Charges and Mass Splitting
Tel Aviv University
- H. Kunz, C.E. Pfister: First Order Phase Transition in the Plane Rotator
ZiF, Bielefeld
- J.L. Challifour: Schwinger Functionals and Euclidian Measures
ZiF Bielefeld
- L.P. Benofy, J.L. Gammel, P. Mery: The Off-Shell Momentum as a Variational Parameter
in Calculations of Matrix Pade Approximants in Potential Scattering
Saint Louis University
- H. Narnhofer: Kommutative Automorphismen und Gleichgewichtszustände
University of Vienna
- H. Grosse: Bounds on Scattering Parameters
University of Vienna

Conferences and Schools**June 10 - 12, 1976****50th Anniversary of the Schrödinger Equation, Vienna****Further information: Prof. W. Thirring, Institut für Theoretische Physik,
Universität Wien, Boltzmannngasse 5, A-1090 Wien,
Austria****August 1 - 21, 1976****Fundamentals of Quark Models, Scottish University Summer School,
St. Andrews****Further information: Dr. D.D. Sutherland, Department of Natural Philosophy,
The University, Glasgow, G12 8QQ, Scotland****August 30 - September 11, 1976****Electrons in Finite and Infinite Structures, Gent****Further information: Prof. Dr. P. Phariseau, Krijgslaan 271 / S9,
Rijksuniversiteit Gent, B-9000 Gent, Belgium**

AMP NEWS BULLETIN

Progress Report

1. Pergamon Press has agreed to give a 50% reduction for the subscription to Reports on Mathematical Physics for members of the society. People interested in this deal should notify me so that I can take the further measures.
2. We shall also announce new publications in mathematical physics which are either in the form of lecture notes or of books. People who want this material to be included in the bulletin should send it to me marked AMP.

W. Thirring

Preprints

- J.T. Lopuszanski, J. Szczucka-Sokolowska: Locally Conserved Currents Linearly Dependent on the Energy - Momentum Tensor and the Polynomial in the Position Variables, Wroclaw, Poland
- J. Naudts: The Bogoliubov Inequality in k-Space, Universiteit Antwerpen
- Ph. Droz-Vincent: Hamiltonian Construction of Predictive Systems, Université Paris VII
- W.G. Faris: An Inequality of Strichartz and Quantum Mechanical Binding, University of Arizona, Tucson
- F. Guerra: External Field Dependence of Magnetization and Long Range Order in Quantum Field Theory (Note added), Institute for Advanced Study, Princeton
- Introduction to Stochastic Field Theory
- J.M. Lévy-Leblond: Who Is Afraid of Non-Hermitian Operators? A Quantum Description of Angle and Phase, Université Paris VII
- J. Magnen, R. Senor: The Wightman Axioms for the Weakly Coupled Yukawa Model in Two Dimensions, ZiF, Bielefeld
- R.H. Herman, M. Takesaki: The Comparability Theorem for Cyclic Projections, ZiF, Bielefeld
- H. Kunz, Ch. Pfister, P.A. Vuillermot: Inequalities for Some Classical Spin Vector Models, ZiF, Bielefeld
- A.O. Barut, L. Girardello, W. Wyss: Nonlinear $O(n+1)$ -Symmetric Field Theories, Symmetry Breaking and Finite Energy Solutions, University of Colorado, Boulder
- R. Ingarden: Quantum Information Theory, Torun, Poland
- K. Jankowski, A. Rutkowski: An Investigation of the Reliability of the Galerkin-Petrov-Method with a Special Study of the Helium-Atom Ground State, Torun, Poland
- G. Czajkowski: Stochastisches Modell für Nicht-Gleichgewichts-Koexistenz dreier Phasen, Torun, Poland
- A. Cooper, L. Rosen: The Weakly Coupled Yukawa₂ Field Theory: Cluster Expansion and Wightman Axioms, Toronto
- E. Sasiada, R.S. Ingarden: A Notion of Entropy Which Does Not Increase, Comments on the Kolmogorov-Sinai-Sasiada-Entropy and the Quantum Information Entropy, Torun, Poland
- G.G. Emch: Generalized K-Flows, ZiF, Bielefeld
- E.H. Lieb: Bounds on the Eigenvalues of the Laplace- and Schrödinger Operators, Princeton University
- J. Lukierski: Lagrangian Model of Conformal Invariant Interacting Quantum Field Theory, ZiF, Bielefeld
- F. Jegerlehner: Dilatation Structures in Renormalized Field Theory and Non-Renormalizable Models, ZiF, Bielefeld
- S. Albeverio, R. Höegh-Krohn: Canonical Quantum Fields in Two Space-Time Dimensions, Matematisk Institutt, Universitetet i Oslo
- S.L. Woronowicz: Nonextendible Positive Maps, ZiF, Bielefeld
- D.E. Evans, J.T. Lewis: Completely Positive Maps on the CCR Algebra, Dublin Institute for Advanced Studies
- Ch. Radin: The Dynamical Instability of Nonrelativistic Many Body Systems, University of Pennsylvania, Philadelphia
- F. Calogero, A. Degasperis: Nonlinear Evolution Equations Solvable by the Inverse Spectral Transform, University di Lecce, Italy
- F. Calogero: On a Functional Equation Connected with Integrable Many Body Problems, Università di Roma, Italy
- J. Bricmont: Correlation Inequalities for Two Component Fields, Louvain-la-Neuve, Belgium
- Inequalities between Different Multicomponent Field Theories
- E.G. Kalnis, W. Miller: Lie Theory and the Wave Equation in Space-Time. 1) The Lorentz Group. 2) The Group $SO(4C)$. 3) Semisubgroup Coordinates, University of Waikato, Hamilton, New Zealand, and University of Minnesota, Minneapolis
- S. Albeverio, R. Höegh-Krohn: Oscillatory Integrals and the Method of Stationary Phases in Infinitely Many Dimensions, with Applications to the Classical Limit of Quantum Mechanics I, Dirichlet Forms and Diffusion Processes on Rigged Hilbert Spaces, Oslo
- R. Jackiw, C. Rebbi: Conformal Properties of a Yang-Mill Pseudoparticle, Cambridge, Massachusetts
- H. Spohn: Relaxation of Finite Closed Systems
- Approach to Equilibrium for Completely Positive Dynamical Semigroups of N-Level Systems, An Algebraic Condition for the Approach to Equilibrium of an Open N Level System, Universität München

- J. Lukierski, A. Ogielski: Renormalization Group and Scale Invariance in Terms of Asymptotic Fields, ZiF, Bielefeld
- O. Bratteli, R.H. Herman, D.W. Robinson: Quasianalytic Vectors and Derivations of Operator Algebras, ZiF, Bielefeld
- J. Bellissard, B. Jochum, R. Lima: Homogeneous and Facially Homogeneous Selfdual Cones, CNRS, Marseille
- C. Parenti, F. Strocchi, G. Velo: Hilbert Space Sectors for Solutions of Non Linear Relativistic Field Equations, Bologna, Italy
- W. Sandhas: Dynamical Equations and Approximation Methods, Bonn, Germany
- K. Kraus, L. Polley, G. Reents: Generators of Infinite Direct Products of Unitary Groups, Models for Infrared Dynamics. I Classical Currents, Würzburg, Germany
- K. Kraus: Position Observables of the Photon, Würzburg, Germany

Books and Lecture Notes

Pergamon Press:

Zhe-Xian Wan: Lie Algebras

R. Kurth: Elements of Analytical Dynamics

K. Washizu: Variational Methods in Elasticity and Plasticity

E.W. Schmidt, H. Ziegelmann: The Quantum Mechanical Three Body Problem

Universität Wien, Institut für Theoretische Physik:

W. Thirring: Klassische Feldtheorie,

Quantenmechanik

Quantenmechanik großer Systeme.

Conferences and Schools

July 5 - 9, 1976

Journées de Mécanique statistique sur les Systèmes Coulombiens, Lausanne, EPF

Further information: Prof. Ph. Choquard, Department of Physics, 14, av. de l'Eglise-Anglaise, Ch-1001 Lausanne, Suisse.

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Editorial Note

1. The tightness of the job situation in the past years has led to a stagnation in the exchange of young scientists. There is the acute danger that the various fields fragment even further in many weakly interacting groups. Although, there is not much we can do about, I thought we could at least announce the jobs which become available in this field so that they become more widely known. Therefore, if you consider filling positions with people coming from outside, please send me an announcement.
2. We do not have for distribution the reprints we announce. Therefore please write to the author or his institution.
3. Since we want to announce only papers which exist already and are not only planned to be written, please do send us the preprint and not just a letter with the title.
4. I would like to remind you that both the Reports on Mathematical Physics and Communications in Mathematical Physics grant 50% reduction for private subscription for members of AMP.

W. Thirring

Preprints

- E.G. Beltrametti, G. Cassinelli: Logical and Mathematical Structures of Quantum Mechanics, Genova, Italy.
- V.K. Dobrev, G. Mack, V.B. Petkova, S.G. Petkova, I.T. Todorov: Elementary Representations and Intertwining Operators for the Generalized Lorentz Group.
On the Clebsch Gordan Expansion for the Lorentz Group in n Dimensions,
Institute for Advanced Studies, Princeton.
- V.K. Dobrev, V.B. Petkova, S.G. Petkova, I.T. Todorov: Dynamical Derivation of Vacuum Operator Product Expansion in Euclidian Conformal Quantum Field Theory,
Institute for Advanced Studies, Princeton.
- M.C. Mintchev, V.B. Petkova, I.T. Todorov: Scale and Conformal Covariance in Quantum Electrodynamics,
Institute for Advanced Studies, Princeton.
- A. Uhlmann: The General Ising Model
Zur Beschreibung irreduzibler Quantenprozesse,
The Transition Propability in the State Space of a $*$ -Algebra,
Karl-Marx Universität, Leipzig, DDR.
- J.P. Provost, F. Rocca, G. Vallee: Phase Operator and Phase Transition in a Classical Dicke Model, Nice, France.
- K. Chadan: The Number of Bound States of Singular Oscillating Potentials, Université de Paris-Sud, Orsay.
- F. Debacker-Mathot: Spectral Properties in a Class of Operators and Group Representations in Nested Hilbert Spaces, Louvain-la-Neuve, Belgium.
- K. Osterwalder, R. Seneor: The Scattering Matrix is Non Trivial for Weakly Coupled $P(\varphi)_2$ Models, Harvard, USA.
- C. Burnap: Isolated One Particle States in Boson Quantum Field Theory Models, Harvard, USA.
- J. Glimm, A. Jaffe: Critical Exponents and Renormalization in the φ^4 Scaling Limit,
Critical Problems in Quantum Fields, Harvard, USA.
- A. Jaffe: Problem Ergodiques Dans la Theorie Quantique des Champs, Harvard, USA.
- J. Glimm, A. Jaffe, T. Spencer: Existence of Phase Transitions for φ^4 Quantum Fields,
Phase Transitions for φ^4 Quantum Fields, Harvard, USA.
- F. Roman, J. Haavisto: Gauge Theories and Nonrelativistic Cosmological Symmetries, Boston University.
- P. Jacob: General Covariance Is Incompatible to the Concept of Elementary Systems,
Max Planck Institut für Erforschung der Lebensbedingungen, Starnberg, BRD.
- R. Weder: Selfadjointness and Invariance of the Essential Spectrum for the Klein Gordon Equation,
ETH Zürich.
- L. Castell: Comment on Dirac's Paper „Wave Equation in Conformal Space”,
Max Planck Institut für Erforschung der Lebensbedingungen, Starnberg, BRD.
- E.B. Davies: Eigenfunction Expansions for Singular Schrödinger Operators,
Quantum Dynamical Semigroups and the Neutron Diffusion Equation,
Math. Institute, Oxford, England.
- E. Störmer: Involutory Automorphisms of Simple $*$ -Algebras, ZiF, Bielefeld, BRD.
- D. Testard: Asymptotic Ratio Set of von Neumann Algebras Generated by Temperature States in Statistical Mechanics, ZiF, Bielefeld.

- A. Chakrabarti, J. Dipoko: Classical Solutions for SU(4): Gauge Fields: Interacting Monopoles, Palaiseau, France.
- U. Cattaneo: On Locally Continuous Cocycles, Kaiserslautern, BRD.
- G. Lindblad: Dissipative Operators and Cohomology of Operator Algebras, Brownian Motion of a Quantum Harmonic Oscillator, Stockholm, Sweden.
- E.H. Lieb, W.E. Thirring: Inequalities for the Moments of the Eigenvalues of the Schrödinger Hamiltonians and Their Relation to Sobolev Inequalities, A Lower Bound for Level Spacings, Vienna, Austria.
- B. Simon: An Introduction to the Self Adjointness and Spectral Analysis of Schrödinger Operators, Princeton University.
- J. Fröhlich, E. Seiler: The Massive Thirring-Schwinger Model (QED₂): Convergence of Perturbation Theory and Particle Structure, Harvard.
- F. Calogero, A. Degasperis: Transformation Between Solutions of Different Nonlinear Evolution Equations Solvable via the Same Inverse Spectral Transform, Generalized Resolvent Formulas and Nonlinear Operator Identities, Coupled Nonlinear Evolution Equations Solvable via the Inverse Spectral Transform, and Solutions that Come Back: the Boomerang, Roma, Italy.
- K.R. Ito: Two Dimensional Quantum Electrodynamics as a Model in the Constructive Quantum Field Theory, Kyoto, Japan.
- J. Messer: A Metric Space of Interactions and the Thermodynamic Limit, Göttingen, BRD.
- G. Forte, G. Schiffrer: A Computational Method for Eigenvalues and Eigenvectors, Catania, Italy.
- S.I. Andersson: Unitary Implementation of Second Quantized Dynamics of Hyperbolic Type, Institut Mittag Leffler.
- T.D. Lee: Nontopological Solitons, Columbia University, New York.
- J. Glimm, A. Jaffe: Φ^4 Bounds in $P(\Phi)_2$ Quantum Field Models, Harvard, USA.
- H. Araki, A. Kishimoto: On Clustering Property, Kyoto, Japan.
- A.L. Stella, F. Toigo: Renormalization Group Approach to a Bose System and Irrelevance of Quantum Features, Padua, Italy.
- W.A. Bardeen, B.W. Lee, R.E. Shrock: Phase Transition in the Nonlinear σ -Model in a $2+\epsilon$ Dimensional Continuum, Fermilab.
- J. Briemont, F. Debacker-Mathot: The Wegner Approximation of the Plane Rotator Model as a Massless, Free, Lattice, Euclidian Field, Louvain-la-Neuve, Belgium.
- J.P. Leveilla, P. Roman: On the Implementability of Local Gauge Transformations in a Theory with Localized States, Boston University.

Books

- P. Roman: Some Modern Mathematics for Physicists and Other Outsiders, Vol. I and II, Pergamon Press.

Conferences and Schools

August 23 - Sept. 4, 1976

Many Degrees of Freedom in Particle Physics and Field Theory, Bielefeld, Germany
Further Information: Mrs. A. Baker, ZiF, Wellenberg 1, D-4800 Bielefeld 1, Germany.

July 5 - 9, 1976

Methodes non perturbatives en theorie quantique des champs, CNRS, Marseille
Further Information: R. Stora, CPT-CNRS, 31, chemin J. Aiguier, Marseille, France.

AMP NEWS BULLETIN

Editorial Note

Unfortunately we get the information about many conferences too late or not at all. Please do collaborate and inform us in time of your plans.

W. Thirring

Preprints

- L. Streit: Lightlike Initial Data for Quantum Field Theory, ZiF Bielefeld
 S. Albeverio, R. Hoegh-Krohn: The Energy Representation of Sobolev-Lie Groups, ZiF Bielefeld
 L.P. Horwitz, S. Raby: The Physics of Charges in Relativistic Quantum Field Theory, Tel Aviv University
 E. Gal-Ezer, L.P. Horwitz: Null Plane Charges and Fourier Transforms for Explicitly and Spontaneously Broken Symmetries, Tel Aviv University
 J. Fröhlich: Phase Transitions, Goldstone Bosons and Topological Superselection Rules, ZiF Bielefeld
 R. Jackiw, C. Rebbi: Vacuum Periodicity in a Yang-Mills Quantum Theory, MIT, Cambridge, Mass.
 Z. Horvath, L. Palla: Monopoles, Dyons and Other Topologically Stable Solutions in Gauge Theory, Budapest
 B. Trombory, S. Waldenström: Bounds on the Diagonal Elements of a Unitary Matrix, Copenhagen, Niels Bohr Institute
 H.D. Doebner, J.E. Werth: Local Group Actions and Lie Algebra Representations I, Globalizations and Integrability, ICTP, Trieste
 Shau-Jin Chang: The Existence of a Second Order Phase Transition in the Two Dimensional Φ^4 Field Theory, University of Illinois, Urbana
 M. Havlicek, W. Lassner: Matrix Canonical Realization of the Lie Algebra $u(p,q)$, Dubna
 I.T. Todorov: Sur la quantification d'un système mécanique avec des contraintes de deuxième classe, IHES, Bures-sur-Yvette
 G. Lassner, B. Timmermann: The Strong Topology on the Algebra of Polynomials, Karl-Marx-Universität, Leipzig
 D. Buchholz: Collision Theory for Massless Bosons, II. Inst. f. Theor. Physik, Universität Hamburg
 O. Bratteli: Unbounded Derivations and Invariant States, ZiF Bielefeld
 V. Enss: A Note on Hunziker's Theorem, ZiF Bielefeld
 J. Fröhlich, J.M. Park: Remarks on Exponential Interactions and the Quantum-Sine-Gordon Equation in Two Space-Time Dimensions, ZiF Bielefeld
 R. Schrader: A Possible Constructive Approach to φ_4^3 III, Harvard University, Cambridge, Mass.
 J. Glimm, A. Jaffe: Particles and Scaling for Lattice Fields and Ising Models, Harvard University, Cambridge, Mass.
 J. Glimm, A. Jaffe, Th. Spencer: A Convergent Expansion About Mean Field Theory, Part I The Expansion, Rockefeller University, New York
 Part II Convergence of the Expansion
 J.R. Klauder: Augmented Quantum Field Theory: A Proposal to Extend Conventional Formulations, Bell Laboratories, Murray Hill, N.J.
 C. Parenti, F. Strocchi, G. Velo: Dynamical Charges and Symmetries in Non Linear Classical Field Theory, ZiF Bielefeld
 J. Fröhlich, L. Streit: Stability of Scattering Phase Shifts, Graz, Austria
 S. Nagamachi, N. Mugibayashi: Quantum Field Theory in Terms of Fourier Hyperfunctions, Tokushima University, Japan
 K. Gustafson, B. Misra: Canonical Commutation Relations of Quantum Mechanics and Stochastic Regularity, EPF, Lausanne
 J.W. Moffat: A General Static Spherically Symmetric Solution in a Unified Theory of Gravitation and Electromagnetism, Toronto
 L.D. Faddeev: Some Comments on the Many Dimensional Soliton, CERN, Geneva
 D. Jagolnitzer, B. Souillard: Decay of Correlations for Slowly Decreasing Potentials, CEN d'Saclay, France
 P.I. Holod: Structure of a Degenerate Series of Representations of Conformal Group (in Russian), Kiev
 I.I. Kachurik: Boosting Matrix Elements for the Most Degenerate Representations of $SO(1,4)$ Group, (in Russian), Kiev

- H. van Haeringen, T Matrix and Effective Range Function for Coulomb plus Rational Separable Potentials Especially for $\ell = 1$, Amsterdam
- H. van Haeringen, C.V.M van der Mee, R. van Wageningen, The Number of Bound States of the Coulomb plus Yamaguchi Potential, Amsterdam
- K. Veselic, J. Weidmann, Potential Scattering in a Homogeneous Electrostatic Field, Dortmund
- W. Garczynski, K. Urbanowski, On a Quasipotential Governing the Time Evolution of a Projection of State-Vector onto one-dimensional Subspace, Wroclaw
- S. Rabsztyn, On the Integrability of the Lie-Algebra of the Conformal Group in Quantum Field Theory, Wroclaw
- W. Karwowski, Closure of the Symmetrized Cone in the Algebra of Test Functions, Wroclaw
- V.I. Kucheriav, On Some Algorithmical Features of the Subtraction Procedure in Quantum Field Theory (in Russian), Kiev
- A.V. Zolotariuk, Discrete Approximation of the Multicomponent Model $|\phi\rangle^4$ (in Russian), Kiev
- K. Keller, On the Multiplication of Distributions III, Aachen
- I.V. Simoney, On Asymptotics of Solution of Stationary Nonlinear Hartree Equation (in Russian), Kiev
- V.A. Shirokov, On the Tensor Product of Representations of the Groups $U(n)$ and $ISO(n)$ (in Russian), Kiev
- F. Calogero, A. Degasperin, Nonlinear Evolution Equations Solvable As the Inverse Special Transform Associated to the Matrix Schrödinger Equation, Roma
- G.L. Sewell, KMS Conditions and Local Thermodynamical Stability of Quantum Lattice Systems II, Queen Mary College
- Ch. Radin, Pointwise Ergodic Theory and Operator Algebras, University of Texas, Austin
- K.R. Parthasarathy, Some Remarks on Martingales Adapted to Processes with Independent Increments, Sansauwal Mary, New Delhi
- G. Parisi, Asymptotic Estimates in Perturbation Theory with Fermions, IHES, Bures, France
- M.D. Semon, J.R. Taylor, Screened Coulomb Scattering in Eikonal Approximation, University of Colorado, Boulder
- J. Yngvason, On the Decomposition of Wightman Functionals in the Euclidian Framework, Göttingen
- A.L. Carey, J.M. Gaffney, C.A. Hurst, A C^* -Algebra Formulation of Gauge Transformations of the Second Kind for the Electromagnetic Field, Adelaide
- J. Glimm, A. Jaffe, A Tutorial Course in Constructive Field Theory, Rockefeller University
- F. Constantinescu, Non Triviality of the Scattering Matrix for Weakly Coupled Φ_3^4 Models, Harvard University
- J. Glimm, A. Jaffe, Functional Integral Methods in Quantum Field Theory, Rockefeller University
- R.A. Brandt, Ng Wing-Chiu, K. Young, Landau Gauge for Non Abelian Gauge Theories, New York University
- M. Hoffmann-Ostenhof, T. Hoffmann-Ostenhof, Schrödinger Inequalities and Asymptotic Behaviour of the Electron Density of Atoms and Molecules, Wien
- H. Namhofer, Scattering Theory for Quasifree Time Automorphisms of C^* -Algebras and Von Neumann Algebras, Wien
- A.P. Balachandran, A.M. Din, J.S. Nilsson, H. Rupertsberger, Gauge Vacua and the Conformal Group, Göteborg
- G.E. Emch, S. Albeverio, J.P. Eckmann, Quasifree Generalized K-Flows, Geneva
- P. Collet, J. P. Eckmann, The ϵ -Expansion for the Hierarchical Model, Geneva
- K. Schmüdgen, Uniform Topologies of Enveloping Algebras, Leipzig
- S. Albeverio, R. Hoegh-Krohn, Dirichlet Forms and Markov Semigroups on C^* -Algebras, Oslo
- Jan Tarski, Log-Concave Functions and Convex Interaction Terms for Quantized Fields, Bielefeld
- P. Garbaczewski, The Method of Boson Expansions in the Quantum Theory of Fermions II Applications, Wroclaw
- T.D. Palev, Fixed Order Matrix Elements of the Parafermi Operators, Dubna
- B. Timmermann, W. Timmermann, On Ultrastrong and Ultraweak Topologies on Algebras of Unbounded Operators, Dubna
- Yoshio Cyanagi, Lower Bound on the Average Angular Momentum for Two Body Systems, Oho-machi, Tsukuba-gun, Ibaraki, Japan
- P. Garbaczewski, Z. Popowicz, Ultralocal Quantization of Sine-Gordon 1-Solitons, Wroclaw
- P. Garbaczewski, Sine-Gordon Solitons in the Relativistic Theory of Neutrino and Photon Fields, The Method of Boson Expansions in the Quantum Theory of Fermions I, General Theory, Wroclaw
- L. Juszczak, Representation of the Relativistic Current Algebra, Wroclaw
- G. Lazarides, A.A. Patani, Temperature Dependence of Bound State Spectra in Field Theory, Joannime, Greece
- F. Strocchi, Spontaneous Symmetry Breaking in Local Gauge Quantum Field Theory: The Higgs Mechanism, Princeton
- J. Tarski, Short Introduction to Nonstandard Analysis and Its Physical Applications, Bielefeld
- G. Lindblad, Non Markovian Quantum Stochastic Prozesses and Their Entropy, Stockholm
- G. Turchetti, Variational Matrix Pade Approximants in Two Body Scattering, University of Western Ontario, London, Canada
- D. Jagolnitzer, B. Souillard, Decay of Correlations for Slowly Decreasing Potentials, CERN
- W.L. van Neerven, R.P. van Royen, The Large N Limit of the Landau Hamiltonian, Nijmegen
- K. Symanzik, $1/N$ Expansion in $P(\Phi^2)_{4-\epsilon}$ Theory I. Massless Theory $0 < \epsilon < 2$, DESY
- O. Bratteli, A Non Simple Crossed Product of a Simple C^* -Algebra by a Properly Outer Automorphic Action, CNRS, Marseille
- P.A. Benioff, H. Ekstein, States and State Preparing Procedures in Quantum Mechanics, CNRS, Marseille

- C. Duval, H.H. Fliche, A Conformal Invariant Model of Localized Spinning Test Particles, CNRS, Marseille
 S. Okubo, Casimir Invariants and Vector Operators in Simple Lie Algebra, University of Rochester, New York
 J. Bricmont, J.R. Fontaine, L.J. Landau, On the Uniqueness of the Equilibrium State in Phase Rotations,
 Louvain la Neuve, Belgium
 S. Ali, E. Prugovecki, Classical and Quantum Statistical Mechanics in a Common Liouville Space, Toronto,
 Canada
 J. Ginibre, G. Velo, On a Class of Nonlinear Schrödinger Equations I, The Cauchy Problem, General Case
 On a Class of Nonlinear Schrödinger Equations II, Scattering Theory, General Case, Orsay
 J.D. Becker, L. Castell, Photon Condensation in an Einstein Universe, Max Planck Institut, Starnberg
 A.L. Carey, J.M. Gaffney, C.A. Hurst, A C^* -Algebra Formulation of the Quantization of the Electromagnetic
 Field, Adelaide
 A.L. Carey, C.A. Hurst, The Fermi Method of Quantizing the Electromagnetic Field as a Model for Quantum
 Field Theory, Adelaide
 M. Zanetti, C. Di Castro, Nonlinear Solutions of the Renormalization Group Equations in the Large n -Limit,
 Salerno, Italy

Books

- E.B. Davies, Quantum Theory of Open Systems, Academic Press 1976
 R. Dirl, P. Kasperkovitz, Gruppentheorie: Anwendungen in der Atom- und Festkörperphysik,
 Vieweg, Braunschweig 1977, DM 56.-, öS. 430.;
 W. Thirring, Lehrbuch der Mathematischen Physik I, Klassische dynamische Systeme,
 Springer Wien-New York 1977, DM 30.-.

Conference

- Conference on Differential Geometrical Methods in Mathematical Physics, July 13 - 16, 1977, Bonn**
 Further Information: Prof. K. Bleuler, Institut für Theoretische Kernphysik, Nussallee 14-16,
 D-5300 Bonn, W-Germany.

AMP NEWS BULLETIN

Editorial Note

1. The statutes have been formulated and are now under discussion by the members of the governing board.
2. The editor of Communications in Mathematical Physics can only grant 50% reduction if more members of AMP subscribe for it.
3. MathSciPress (President R. Hermann), 53 Jordan Road, Brookline, MA. 02146 (USA) offers 40% discount for AMP members for the following books:
 - Sophus Lie's 1880 Transformation Group Paper. Translated by M. Ackerman, comments and additional material by R. Hermann. 1975. 562 pages. \$ 28 ISBN 0-915692-10-4.
 - Ricci and Levi-Civita's Tensor Analysis Paper. Translation, comments and additional material by R. Hermann. 1975. \$ 14 ISBN 0-915692-11-2.
 - Sophus Lie's 1884 Differential Invariants Paper. Translation by M. Ackerman, comments and additional material by R. Hermann. \$ 20 ISBN 0-915692-13-9.
 - Fourier Analysis on Symplectic Manifolds, by N. Wallach, with an Appendix on Quantum Mechanics by R. Hermann. ISBN 0-915692-15-5. In press.
 - Linear and Tensor Algebra. 163 pages. 1973. \$ 6.50. ISBN 0-915692-01-5.
 - Energy Momentum Tensors. 153 pages. 1973. \$ 8. ISBN 0-915692-03-1.
 - Topics in General Relativity. 171 pages. 1973. \$ 9. ISBN 0-915692-04-2.
 - Topics in the Mathematics of Quantum Mechanics. 250 pages. 1973. \$ 13. ISBN 0-915692-05-8.
 - Spinors, Clifford and Cayley Algebras. 276 pages. 1974. \$ 15. ISBN 0-915692-06-6.
 - Geometric Structure of Systems-Control Theory and Physics, Part A. 450 pages. 1974. \$ 24. ISBN 0-915692-08-2.
 - Gauge Fields and Cartan-Ehresmann Connections, Part A. 515 pages. 1975. \$ 25. ISBN 0-915692-09-0.
 - Geometric Structure of Systems-Control Theory and Physics, Part B. June 1976. \$ 35. ISBN 0-915692-14-7.
 - Geometric Theory of Non-Linear Differential Equations, Bäcklund Transformations, and Solitons, Part A. July 1976. ISBN 0-915692-16-3.
4. North-Holland Publishing Company, P.O.Box 211, Amsterdam, The Netherlands, offers a discount for „Structural Analysis of Collision Amplitudes” (Proceedings of the Les Houches Summer School in Theoretical Physics, June 1975) for members \$ 45. (postage/handling included) (regular sales price \$ 57.50).

Preprints

- H. Focke: Stability of Deficiency Index, Osnabrück
 H. Behncke, H. Focke: Stability of Deficiency Indices II, Osnabrück
 J. Lukierski: Renormalization Group and Scale Transformations for Renormalized Field Operators, ZiF, Bielefeld
 H. Araki, D. Kastler, M. Takesaki, R. Haag: Extension of KMS States and Chemical Potential, ZiF, Bielefeld
 M.E. Mayer: Gauge Field Vacua and Their Characteristic Classes, University of California, Irvine
 E.G. Kalnins, W. Miller: Lie Theory and the Wave Equation in Space Time 4: The Klein Gordon Equation and the Poincare Group
 Lie Theory and the Wave Equation in Space Time 5: R-Separable Solutions of the Wave Equation $\psi_{tt} - \Delta_3 \psi = 0$, University of Waikato, Hamilton, New Zealand
 A. Voros: Asymptotic \hbar -expansions of Stationary Quantum States, CENS, Gif sur Yvette
 H. Araki, A. Kishimoto: On Clustering Property Symmetry and Equilibrium States, Kyoto University
 P. Roman: Statistical Thermodynamics of UR-Systems, MPI, Starnberg, BRD
 H. Araki: Relative Entropy for States of von Neumann Algebras II, ZiF, Bielefeld
 G.C. Hegerfeldt, C.R. Nappi: Mixing Properties in Lattice Systems, ZiF, Bielefeld
 S.L. Woronowicz: A Remark on the Polar Decomposition of m -sectorial Operators, ZiF, Bielefeld
 O. Bratteli, R.H. Herman, D.W. Robinson: Perturbations of Flows on Banach Spaces and Operator Algebras ZiF, Bielefeld
 W. Driessler: On the Type of Local Algebras in Quantum Field Theory, ZiF, Bielefeld
 J.L. Challifour, S.P. Slinker: On Schwinger Functionals, Positive Extensions, Moment Problems and Representations, ZiF, Bielefeld
 L. Sasvari, P. Szepfalusy: Dynamical Critical Properties of a Stochastic n -Vector Model, Budapest
 P. Szepfalusy: Dynamical Critical Phenomena and the Renormalization Group - Application to a Lattice Dynamic Model, Central Research Institute for Physics, Budapest
 J.P. Eckmann: Remarks on the Classical Limit of Quantum Field Theories, Geneva
 J. Yngvason: Remarks on the Reconstruction Theorem for Field Theories with Indefinite Metric, Göttingen
 R. Arens: Corrected Sommerfeld-Wilson Rule in Geometric Quantization, Lifting Group Actions to the Cotangent Bundle, Univ. of California, Los Angeles
 A. Uhlmann: Relative Entropy and the Wigner-Yanase-Dyson-Lieb Concavity in an Interpolation Theory, Karl-Marx-University, Leipzig
 M.T. Grisaru, H.N. Pendleton, P. v. Nieuwenhuizen: Supergravity and the S-Matrix, Brandeis Univ., Mass.

- J.M. Luttinger: A New Variational Method with Applications to Disordered Systems, Rockefeller Univ. The Diamagnetism of a Single Disordered System
- S. Albeverio, R. Hoegh-Krohn, L. Streit: Energy Forms, Hamiltonians and Distorted Brownian Paths, ZiF, Bielefeld
- S. Albeverio, R. Hoegh-Krohn: Hunt Processes and Analytic Potential Theory on Rigged Hilbert Spaces, ZiF, Bielefeld
- J. Jegerlehner: On the Construction of Renormalized Field Theories from Cut-Off and Lattice Models, ZiF, Bielefeld
- I.W. Herbst: Unitary Equivalence of Stark Hamiltonians, Princeton University
- F. Mancini, M. Marinaro, M. Zannetti: Boson Method in Superconductivity. Study of Systems Containing Scalar Impurities, Universita di Salerno
- F. Mancini, M. Marinaro: The Boson Characteristic Function in the Case of Non-Pure Superconductors, Universita di Salerno
- C. De Concini, G. Vitiello: Spontaneous Breakdown of Symmetry and Group Contractions, Univ. di Salerno
- R.S. Ingarden: Information Theory and Thermodynamics, Part II: Thermodynamics: § 13 General and Dynamical Systems, Automata, Torun, Poland
- H. Spohn, J.L. Lebowitz: Stationary Non-Equilibrium States of Infinite Harmonic Systems, Yeshiva Univ.
- J.E. Avron, I.W. Herbst: Spectral and Scattering Theory of Schrödinger Operators Related to the Stark Effect, Princeton
- D.A. Dubin, M. Keynes: Thermal States of the Vector Meson Model in Two Dimensions, Open University England
- R. Newton: Non Central Potentials: The Generalized Levinson Theorem and the Structure of the Spectrum, Bloomington, Indiana
- T. Hida, L. Streit: On Quantum Theory in Terms of White Noise, ZiF, Bielefeld
- T. Hida: Functionals of Brownian Motion I, ZiF, Bielefeld
- M. Cwikel: Weak Type Estimates for Singular Values and the Number of Bound States of Schrödinger Operators, Institute for Advanced Study, Princeton
- K.D. Rothe, J.A. Swieca: Gauge Transformations and Vacuum Structure in the Schwinger Model, PUC, Rio de Janeiro
- T. Eguchi, P.G.O. Freund: Quantum Gravity and World Topology, Enrico Fermi Institute, Chicago
- R.N. Hill: Proof that the H^- ion has only One Bound State, Univ. of Delaware, Newark, Delaware
- R.F. Streater: Markovian Representations of Current Algebras, ZiF, Bielefeld
- Ph. Blanchard, J. Tarski: Renormalizable Interactions in Two Dimensions and Sharp Time Fields, ZiF, Bielefeld
- F. Jegerlehner: Renormalization Groups, ZiF, Bielefeld
- G. Casati, J. Guaneri, F. Valz-Gris: Statistical Properties of a One-Dimensional Radiant Cavity, Milano
- D.G. Babbitt, L.E. Thomas: An Explicit Plancherel Theorem for the Ground State Representation of the Heisenberg Chain, Univ. of California, Los Angeles
- T. Aaberge: On the Description of Classical Einstein Relativistic Two Particle Systems, Geneva
- M. Blazek: Generalized Distributions for Multiparticle Productions, Bratislava, CSSR
- J. Rayski: The Problem of Localization of Energy Momentum and Quantization of the Gravitational Field, Dublin Institute for Advanced Studies, Eight Dimensional Unified Theory
- C.A. Aragao de Carvalho: A Callan-Symanzik Study of the $\lambda\phi_3^4 + g\phi_3^6$ Theory, PUC, Rio de Janeiro
- W.D. Garber, H. Reeh: Non Translationally Covariant Currents and Associated Symmetry Generators, Göttingen
- H. Grosse: On the Absence of Bound States for Three Body Systems, Wien

Books

- C. Piron: Foundations of Quantum Physics, Benjamin Inc., Reading, Mass. 1976
- J.M. Jauch, F. Rohrlich: Theory of Photons and Electrons, Second expanded edition, Springer Verlag 1976

Conferences and Schools

- November 5, 1976
Statistical Mechanics Conference, Open University, Walton Hall, Milton Keynes, Bucks.
Further information: Prof. O. Penrose
- November 25 - 27, 1976
Rencontre entre Physiciens Théoriciens et Mathématiciens, Strasbourg
Further information: Prof. R. Gerard, 7, rue Rene Descartes, F-67084 Strasbourg
- July 18 - 22, 1977
VI. International Colloquium on Group Theoretical Methods in Physics
Further information: Prof. P. Kramer, Institut für Theoretische Physik, Universität Tübingen, Auf der Morgenstelle 14, D-7400 Tübingen
- August 24 - 30, 1977
Statistical Physics, Technion-Israel Institute of Technology, Haifa, Israel
Further information: Statphys 13, Physics Department, Technion ...
- September 11 - 21, 1977
Operator Algebras, Ideals and Their Applications in Theoretical Physics, Leipzig, DDR
Further information: Prof. H. Baumgärtel, ZIMM, Akad. d. Wiss., Mohrenstr. 39, DDR-108 Berlin