

P.Kruszynski, Eindhoven University of Technology, Department of Mathematics and Computing Science, P.O.B. 513, 5600 MB Eindhoven, The Netherlands  
SYMMETRICALLY POSITIVE MAPS

J.Marion, Département de Mathématiques, Faculté des Sciences de Luminy, Université Aix-Marseille II  
A SURVEY ON THE UNITARY REPRESENTATIONS OF GAUGE GROUPS, AND SOME REMAINING OPEN QUESTIONS  
Zif-preprint

J.Mickelsson, Research Institute for Theoretical Physics, University of Helsinki  
CHIRAL ANOMALIES IN EVEN AND ODD DIMENSIONS

P.Muthuramalingam, Indian Statistical Institute New Delhi-16, India, and King's College, Strand London, England  
A NOTE ON TIME DEPENDENT SCATTERING THEORY FOR  
 $P_1^2 - P_2^2 + (1 + |Q|)^{-1-\epsilon}$  and  $P_1 P_2 + (1 + |Q|)^{-1-\epsilon}$  on  $L^2(\mathbb{R}^2)$ .

Z.Oziewicz and W.Gruhn, Institute of Theoretical Physics, Wroclaw University, Poland  
ON JACOBI'S THEOREM

Th.Paul, Centre de Physique Théorique 2, CNRS Luminy Case 907, F-13288 Marseille Cedex 9  
FUNCTIONS ANALYTIC ON THE HALF-PLANE AS QUANTUM MECHANICAL STATES  
Zif-preprint

A.Rieckers, Institut für Theoretische Physik der Universität Tübingen, D-7400 Tübingen  
ON THE CLASSICAL PART OF THE MEAN FIELD DYNAMICS FOR QUANTUM LATTICE SYSTEMS IN GRAND CANONICAL REPRESENTATIONS

H.Spohn, Ludwig-Maximilians-Universität München, Theoretische Physik, Theresienstr.37, D-8000 München 2  
EQUILIBRIUM FLUCTUATIONS FOR INTERACTING BROWNIAN PARTICLES

W.R.Schneider, Brown Boveri Research Center, CH-5405 Baden, Switzerland  
RANDOM WALKS WITH COMPLICATIONS

O.Steinmann, Universität Bielefeld, Fakultät für Physik, D-4800 Bielefeld 1  
PERTURBATIVE QED IN TERMS OF GAUGE INVARIANT FIELDS

K.K.Wan, D.McLean, University of St.Andrews, School of Physical Sciences, Department of Theoretical Physics, North Haugh, St.Andrews, FIFE, KY16 9SS, Scotland  
ASYMPTOTIC OPERATOR ALGEBRAS IN QUANTUM MECHANICS

OBSERVABLES OF ASYMPTOTICALLY VANISHING CORRELATIONS, STATES AT INFINITY AND QUANTUM SEPARABILITY

K.K.Wan, T.D.Jackson, Univ. of St.Andrews, Scotland  
ON THE LOCALIZATION OF OBSERVABLES IN QM I: BOUNDED OBSERVABLES

K.K.Wan, I.H.McKenna, T.D.Jackson, Univ. of St.Andrews, Scotland  
ON THE LOCALIZATION OF OBSERVABLES IN QM II: MOMENTUM OBSERVABLES

K.K.Wan, I.H.McKenna, Univ. of St.Andrews, Scotland  
THE ROLE OF THE CORRECTION IN GEOMETRIC QUANTIZATION  
TEMPLES PARADOX ON THE SQUARING AND LINEARITY AXIOMS OF QUANTIZATION IN QM

J.Yngvason, Rauvisindastofnun Háskólans Science Institute, Dept. of Mathem. University of Iceland, Dunhaga 3 - 107 Reykjavik  
EUCLIDEAN INVARIANT INTEGRAL REPRESENTATIONS FOR SCHWINGER FUNCTIONALS

E.Zehnder, Ruhr-Universität Bochum, Inst.f.Mathem., D-4630 Bochum  
SOME PERSPECTIVES IN HAMILTONIAN SYSTEMS  
Zif-preprint

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IAMP NEWS BULLETIN

March 1984

ANNOUNCEMENTS

OBITUARY

With great sadness we learnt of Vladimir Glaser's death on January 22nd, 1984, after a painful illness. Vladimir Glaser, born in 1924, has been a staff member of the Theory Division of CERN for many years. He was one of the most prominent theoretical physicists of his generation. Among his contributions in many fields his work on analyticity properties of scattering amplitudes in field theory will stand as a fundamental achievement. He was also a great teacher and, because of his warm personality, a very dear friend to many of us.

Philippe Blanchard      André Martin

Beginning this year the Universities of Bielefeld and Bochum will be hosting a new Research Center

BiBoS  
Research Center  
Bielefeld-Bochum  
Stochastic Processes -  
Mathematics and Physics

The Research Center, through support by the Volkswagen Foundation, will offer a number of positions for Visiting Professors, as well as some further ones on the post-doctoral level. BiBoS will also host symposia on Stochastic Processes and Applications twice a year, the first on September 10-15, 1984.  
Chairmen: S.Albeverio (Bochum), Ph.Blanchard and L.Streit (Bielefeld)  
Contact: L.Streit, Zif - University, D-4800 Bielefeld

"Reports on Mathematical Physics", edited by R.S.Ingarden in Torun, Poland, has resumed its publication schedule and is ready again to accept Mathematical Physics papers.

IAMP is giving travel grants to Polish students in Mathematical Physics visiting the KARPACZ Winterschool (first time 1985). Applications have to be sent to the Institute of Theoretical Physics, University of Wroclaw, 50-205 Wroclaw, ul. Cybulskiego 36.

It is a pleasure to welcome Academic Press Inc.(London)Ltd. as an Associate Member of IAMP.

Elliott Lieb

Bielefeld encounters in Physics and Mathematics VI

"RESONANCES - MODELS AND PHENOMENA"

at the  
Centre for Interdisciplinary Research  
Bielefeld University

April 9 - 14, 1984

Topics:

Chemistry - Molecular, Atomic, Nuclear, Elementary Particle Physics -  
Electrodynamics - Hamiltonian Systems - Mathematical Methods

The list of speakers will include:

F. Balslev, E. Brändas, R.H. Dalitz, G. Dell'Antonio, V. Enss, F. Gesztesy  
S. Graffi, A. Grossmann, R. Höegh-Krohn, H.J. Korsch, C. Mahaux, A. Maquet,  
N. Moiseyev, G. Rupp, R. Seiler, A. Tip, T.T. Wu

Organized by:

S. Albeverio (Bochum), L.S. Ferreira (Coimbra), L. Streit (Bielefeld)

Contact:

Ms. Hoffmann, ZIF - University of Bielefeld, D-4800 Bielefeld,  
(T.: 0521/1062768)

(The symposium is partly supported by the Volkswagen Foundation)

The JANOS-BOLYAI-MATHEMATICAL SOCIETY organizes its 2nd colloquium on Random Fields:

"RIGOROUS RESULTS IN STATISTICAL PHYSICS"

in Koeszeg (Hungary)

August 26 - September 1, 1984

Members of the international program committee:

R.L. Dobrushin, A. Jaffe, O.E. Landford, J.L. Lebowitz, D. Ruelle, Ya.G. Sinai.

Invited speakers among others:

M. Aizenman, H. Araki, R. Caflisch, P. Collet, A. Katok, A. Kupiainen, E.H. Lieb,  
M. Misiurewicz, C. Papanicolaou, E. Pressutti, B. Souillard.

For more information contact the J.B.M.S.: H-1368 Budapest, P.O.B. 240.

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LES RESUMES (MAXIMUM 1 PAGE) DOIVENT ETRE ENVOYES AVANT LE 15 AVRIL 1984.

PREPRINTS (Received in Princeton)

- M. Aizenman (Dept. of Math and Phys., Rutgers Univ., New Brunswick, NJ 08903 USA)  
SELF INTERSECTION OF BROWNIAN PATHS AS A CASE STUDY OF A RENORMALIZATION  
GROUP METHOD FOR QUANTUM FIELD THEORY
- J.L. Challifour (Depts. of Math. and Phys., Indiana University, Bloomington, IN  
47405 USA) SELF-ADJOINTNESS OF LATTICE YANG-MILLS HAMILTONIANS AND KATO'S  
INEQUALITY WITH INDEFINITE METRIC
- G.A. Hagedorn (Dept. of Math., VPI and SU, Blacksburg, VA 24061 USA) and P.A.  
Perry (Dept. of Math., Cal Tech, Pasadena, CA 91125)  
ASYMPTOTIC COMPLETENESS OF CERTAIN FOUR BODY SCHRÖDINGER OPERATORS
- M.L. Lapidus (Dept. of Math. DRB 306, Univ. of So. California, Los Angeles, CA  
90089-1113 USA) EIGENVALUES OF THE LAPLACIAN WITH AN INDEFINITE WEIGHT  
FUNCTION
- R.C. Newton (Physics Dept. Indiana University, Bloomington, IN 47405)  
REMARKS ON INVERSE SCATTERING IN ONE DIMENSION
- M. O'Carroll (Depto de Fisica-ICEx, Univ. Fed. de Minas Gerais, C.P. 702, 30.000,  
Belo Horizonte, MG Brasil)  
ANALYTICITY PROPERTIES AND A CONVERGENT EXPANSION FOR THE INVERSE CORRELATION  
LENGTH OF THE HIGH TEMPERATURE d-DIMENSIONAL ISING MODEL  
ANALYTICITY PROPERTIES AND A CONVERGENT EXPANSION FOR THE INVERSE CORRELATION  
LENGTH OF THE LOW TEMPERATURE d-DIMENSIONAL ISING MODEL (w/ W.D. Barbosa)  
ANALYTICITY PROPERTIES AND A CONVERGENT EXPANSION FOR THE GLUEBALL MASS AND  
DISPERSION CURVE OF STRONGLY COUPLED EUCLIDEAN  $Z^3$  LATTICE GAUGE THEORIES  
CONVERGENT EXPANSIONS FOR ASYMPTOTICALLY DEGENERATE INVERSE CORRELATION  
LENGTHS OF CLASSICAL LATTICE SPIN SYSTEMS  
CONVERGENT EXPANSIONS FOR GLUEBALL MASSES IN STRONGLY COUPLED 3+1 LATTICE  
GAUGE THEORIES (w/ W.D. Barbosa)  
GLUEBALL MASS SPECTRUM AND MASS SPLITTING IN  $Z^3$  EUCLIDEAN STRONGLY COUPLED  
LATTICE GAUGE THEORIES
- W.R.E. Weiss and G.A. Hagedorn (Dept. of Math, VPI and SU, Blacksburg, VA 24061 USA)  
REFLECTION AND TRANSMISSION OF HIGH FREQUENCY PULSES

Preprints received in Tokyo

- D. Fujiwara, A. Inoue, S. Takakuwa, Dept. Math. Tokyo Inst.  
Technology, Ookayama, Meguro-ku, Tokyo, 152 Japan  
A VARIFOLD SOLUTION OF THE NONLINEAR WAVE EQUATION OF A  
MEMBRANE
- T. Ichinose, Dept. Math. Hokkaido Univ. 060-Sapporo, Japan  
PATH INTEGRAL FORMULATION OF THE PROPAGATOR FOR A TWO-  
DIMENSIONAL DIRAC PARTICLE
- T. Ichinose, Dept. Math., and H. Tamura, Dept. Phys., Hokkaido  
Univ. 060-Sapporo, Japan  
PROPAGATION OF A DIRAC PARTICLE - A PATH INTEGRAL APPROACH
- H. Isozaki, Dept. Math. Kyoto Univ. Tyoto, 606 Japan and  
H. Kitada, Dept. Math. Coll. General Educ. Univ. Tokyo,  
Komaba, Tokyo, 153 Japan  
MICRO-LOCAL RESOLVENT ESTIMATES FOR TWO-BODY SCHRÖDINGER  
OPERATORS  
A REMARK ON THE MICRO-LOCAL RESOLVENT ESTIMATES FOR TWO-  
BODY SCHRÖDINGER OPERATORS
- H. Kitada, Dept. Math. Coll. General Educ. Univ. Tokyo,  
Komaba, Tokyo, 153 Japan  
ASYMPTOTIC COMPLETENESS FOR N-BODY SCHRÖDINGER OPERATORS,  
I. SHORT-RANGE POTENTIALS
- S. Ozawa, Dept. Math. Tokyo Univ., Hongo, Tokyo 113, Japan  
A SHAPE OF EIGENFUNCTION OF THE LAPLACIAN UNDER SINGULAR  
VARIATION OF DOMAINS

Preprints received in Bielefeld

- S. Albeverio, Mathematisches Institut, Ruhr-Universität Bochum, D-4630 Bochum 1 and T. Arede, Faculdade de Engenharia (DEMEC), R. dos Bragas, 4000 Porto, Portugal  
THE RELATION BETWEEN QUANTUM MECHANICS AND CLASSICAL MECHANICS: A SURVEY OF SOME MATHEMATICAL ASPECTS  
ZiF-preprint
- S. Albeverio, Mathematisches Institut, Ruhr-Universität Bochum and R. Höegh-Krohn, Matematisk Institutt, Universitetet i Oslo (Norway) and D. Testard, Centre Universitaire d'Avignon (France)  
FACTORIALITY OF REPRESENTATIONS OF THE GROUP OF PATHS ON  $SU(n)$   
ZiF-preprint
- S. Albeverio, Mathematisches Institut, Ruhr-Univ. Bochum, D-4630 Bochum, and F. Gesztesy, Institut f. Theor. Physik, Universität Graz (Austria), and R. Höegh-Krohn and H. Holden, Matematisk Institutt, Universitetet i Oslo (Norway)  
SOME EXACTLY SOLVABLE MODELS IN QUANTUM MECHANICS AND THE LOW ENERGY EXPANSIONS  
ZiF-preprint
- A. S. Alves, Departamento de Matematica, Apartado 3008, P-3000 Coimbra, Portugal  
APPROACH TO EQUILIBRIUM OF A RELATIVISTIC GAS  
ZiF-preprint
- J.-P. Antoine, Institut de Physique Théorique, Université Catholique de Louvain B-1348 Louvain-la-Neuve (Belgium) and W. Karwowski, Institute of Theoretical Physics, University of Wrocław, ul. Cybulskiego 36  
PARTIAL \*-ALGEBRAS OF CLOSED LINEAR OPERATORS IN HILBERT SPACE  
ZiF-preprint
- R. Artuso, V. Benza, A. Frigerio, V. Gorini and E. Montaldi, Dipartimento di Fisica, Sezione Fisica Teorica, Univ. di Milano, Milano, Italy and INFN, Sezione di Milano  
THE STATIONARY STATE FOR A VARIANT OF DAVIES' MODEL OF HEAT CONDUCTION
- D. Bollé and F. Gesztesy, Instituut voor Theoretische Fysica, Universiteit Leuven, B-3030 Leuven, Belgium  
LOW-ENERGY PARAMETRIZATION OF SCATTERING OBSERVABLES IN n-DIMENSIONAL QUANTUM SYSTEMS
- J. Brimont, Institut de Physique Théorique, U.C.L., B-1348 Louvain-La-Neuve, Belgique  
J. Fröhlich, Theoretical Physics, ETH-Hönggerberg, CH-8093 Zürich, Switzerland  
DEFECT FREE ENERGIES IN LATTICE GAUGE THEORIES WITH MATTER FIELDS
- E. Brüning, Research Institute for Mathematical Sciences, Kyoto University, Kyoto/Japan  
MONOTONE CONTINUOUS LINEAR EXTENSIONS ON TENSORALGEBRAS  
ON A REALIZATION OF LOCALITY IN QFT - a new class of models -  
WHEN IS A FIELD A JACOBI-FIELD?
- Th. Cazenave, Laboratoire d'Analyse Numérique 55-65 - 5<sup>e</sup> et Univ. P. et M. Curie, 4, place Jussieu, F-75230 Paris Cedex 05, France  
SOME REMARKS ON THE ASYMPTOTIC BEHAVIOUR OF SOLUTIONS TO NONLINEAR SCHRÖDINGER EQUATIONS  
ZiF-preprint
- H. L. Cycon and C. Erdmann, Technische Universität Berlin, Fachbereich 3-Mathematik, Straße des 17. Juni 135, D-1000 Berlin 12  
ABSENCE OF HIGH ENERGY RESONANCES FOR MANY-BODY SCHRÖDINGER OPERATORS
- H. L. Cycon and P. Perry, Technische Universität Berlin, D-1000 Berlin 12  
LOCAL TIME-DECAY OF HIGH ENERGY SCATTERING STATES FOR THE SCHRÖDINGER EQUATION

- G. F. Dell'Antonio and E. Orlandi, Dipartimento di Matematica, Università di Roma, and R. Figari, Dipartimento di Fisica, Università di Napoli, INFN, Sez. Napoli  
REPRESENTATION THEOREMS FOR THE ELECTRIC FIELD AND FOR THE EFFECTIVE DIELECTRIC CONSTANT IN HETEROGENEOUS AND RANDOM MEDIA  
ZiF-preprint
- J. P. Dias, CMAF, 2 Av. Gama Pinto, 1699 Lisboa Codex, Portugal  
TIME DECAY FOR THE SOLUTIONS OF SOME NONLINEAR SCHRÖDINGER EQUATIONS  
ZiF-preprint
- S. Doplicher, Dipartimento di Matematica, Univ. di Roma "La Sapienza", 00185 Roma, Italy  
CURRENT ALGEBRA AND THE LOCAL NATURE OF SYMMETRIES IN LOCAL QUANTUM THEORY  
ZiF-preprint  
PROBLEMS IN QUANTUM FIELD THEORY AND IN OPERATOR ALGEBRAS
- G. G. Düssel and R. J. Liotta, Research Institute of Physics, S-10405 Stockholm 50, Sweden  
MANY BODY GREEN-FUNCTION OF COMPOSED SYSTEMS  
ZiF-preprint
- K. Gawedzki, Department of Mathematical Methods of Physics, Warsaw Univ., Poland, and Antti Kupiainen, Department of Technical Physics, Helsinki University of Technology, SF-02150 Espoo 15, Finland  
RIGOROUS RENORMALIZATION GROUP AND LARGE N  
ZiF-preprint
- F. Gesztesy, H. Mitter and M. Perusch, Institut für Theoretische Physik, Univ. Graz A-8010 Graz, Austria  
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THREE NUCLEON FORCES  
ZiF-preprint
- H. Grosse, Institute for Theoretical Physics, University of Vienna, Austria  
SOLITONS OF THE MODIFIED KDV-EQUATION  
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- T. Hida, Dept. of Mathematics, Faculty of Science, Nagoya University, Chikusa-ku, Nagoya 464, Japan  
BROWNIAN FUNCTIONALS AND THE ROTATION GROUP  
ZiF-preprint
- T. Ichinose, Department of Mathematics, Hokkaido University, 060-Sapporo, Japan, and H. Tamura, Department of Physics, Hokkaido University, 060-Sapporo, Japan  
PROPAGATION OF A DIRAC PARTICLE - A PATH INTEGRAL APPROACH
- B. Iochum, C.N.R.S. Luminy Case 907, Centre de Physique Théorique, F-13288 Marseille Cedex 9, France  
NON-ASSOCIATIVE  $L^p$ -SPACES  
ZiF-preprint
- N. Karchev, Department of Physics, University of Sofia, Sofia 1126, Bulgaria, and I. T. Todorov, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Science, Sofia 1184, Bulgaria  
CONFORMAL COMPOSITE FIELDS AND OPERATOR PRODUCT EXPANSIONS  
ZiF-preprint

INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS



IAMP NEWS BULLETIN

June 1984

Progress Report

Special Personal Rates for Communications in Mathematical Physics

Since 1981 Springer-Verlag has offered Communications in Mathematical Physics to individual members of the IAMP at a drastically reduced personal subscription rate (< 15% of the regular rate). This agreement between the publishers and our association has now been extended through 1986.

This special price is offered by the publisher in order to facilitate the research of our members and to make CMP as widely accessible as possible. (Naturally, the special price must not be used to replace regular library orders.) From the publisher's point of view, implementing the offer is costly and makes sense only if sufficiently many of our members (about 75) avail themselves of it. At the moment, the number is marginal (about 47) and if it is not increased Springer may decide to terminate the offer after 1986. They share our belief, however, that the number will increase; this made the extension to 1986 possible. But new subscriptions must be forthcoming if we are to continue this arrangement and I would urge members of IAMP to consider seriously entering a personal subscription. For your convenience an order form for 1984 is attached. (An order form for 1985 will be printed shortly.) Note that one can start the order at any time; it is not necessary to start on January 1.

Members are also reminded that Reidel Publishing Co. has a special private individual's subscription price to Letters in Mathematical Physics (see the front cover of LMP for details). The American Institute of Physics and The Institute of Physics (U.K.) both offer IAMP members reduced rates on certain of their journals (see the December 1983 News Bulletin for details).

Notice of Executive Committee Elections

The present IAMP Executive Committee serves until December 31, 1984. It will therefore be necessary to have an election for the new executive committee. This will be done by mail ballot of all members in the Fall.

Elliott Lieb

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Lyman Laboratory of Physics  
Harvard University, Cambridge.

ANNOUNCEMENT

A Symposium on the Foundations of Modern Physics: 50 years of the Einstein-Podolsky-Rosen Gedankenexperiment will be held in Joensuu (Finland) at the University of Joensuu, June 16-20, 1985.

The aim of the Symposium is to give a review of the impact of the EPR-argument on the development of quantum theory, to discuss philosophical implications of the recent experimental and theoretical results on the EPR-problem to our conception of nature, and to discuss some other recent trends in the interpretation of quantum mechanics (entropy) and classical mechanics (chaos).

The scientific programme of the symposium will consist of about 20 invited addresses (30-60 min each), about 20-30 contributed papers (20-30 min each), two panel discussions (about two hours each), and a seminar on Wolfgang Pauli's philosophical ideas. The following persons have tentatively agreed to give an invited talk: N. Rosen, V. Weisskopf, R. Peierls, E. Wigner, K. Popper, H. Margenau, D. Bohm, M. Jammer, A. Shimony, A. Aspect, B. d'Espagnat, E. Beltrametti, I. Prigogine, P. Mittelstaedt, C. Piron, C. Randall, B.C. van Fraassen, H. Barreau, M. Fierz.

Contributed papers will be requested. They will be accepted after hearing the Scientific Advisory Committee.

Scientific Advisory Committee: E. Beltrametti (Genova), M. Fierz (Zürich), B.C. van Fraassen (Princeton), P. Mittelstaedt (Gologne). Additional members will be invited.

Local Organizing Committee: K.V. Laurikainen (chairman), R. Hämmäläinen, A. Kallio, K. Mansikka, P. Lahti (secretary)

For all information please contact:

Pekka Lahti  
Department of Physical Sciences  
University of Turku  
SF-20500 Turku 50  
Finland

XIVeme ECOLE D'ETE DE CALCUL DES PROBABILITES

SAINT-FLOUR (CANTAL)

19 Août - 5 Septembre 1984

- CONFERENCIERS INVITES

- René CARMONA, Professeur à l'Université de Saint-Etienne et à l'Université de Californie à Irvine (U.S.A.)

*"Propriétés spectrales des opérateurs de Schrödinger aléatoires"*

- Harry KESTEN, Professeur, Cornell University à Ithaca (U.S.A.)

*"Aspects of first-passage percolation"*

- John WALSH, Professeur, the University of British Columbia à Vancouver (Canada)

*"Stochastic integrals and/or stochastic PDE"*

RENSEIGNEMENTS et INSCRIPTIONS: P.L. HENNEQUIN, B.P. n°45 F-63170 AUBIERE

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The JANOS-BOLYAI-MATHEMATICAL SOCIETY organizes its 2nd colloquium on Random Fields:

"RIGOROUS RESULTS IN STATISTICAL PHYSICS"

in Keszeg (Hungary)

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M. Aizenman, H. Araki, R. Caflisch, P. Collet, A. Katok, A. Kupiainen, E.H. Lieb, M. Misiurewicz, C. Papanicolau, E. Presutti, B. Souillard.

For more information contact the J.B.M.S.: H-1368 Budapest, P.O.B. 240.

Stochastic Processes - Mathematics and Physics

at the  
Centre for Interdisciplinary Research  
Bielefeld University

September 10-15, 1984

The list of speaker will include:

L. Arnold, E. Carlen, E. Dynkin, D. Elworthy, M. Fukushima,  
J. Fröhlich, L. Gross, F. Guerra, R. Höegh-Krohn, S. Kotani,  
S. Kusuoka, E. Lieb, A. Meyer, J. Neveu, M. Pinsky, R. Sénéor,  
B. Souillard, R. Streater, D. Stroock, A. Truman.

X to be confirmed

Organized by:

S. Albeverio (Bochum), Ph. Blanchard (Bielefeld), L. Streit (Bielefeld).

Contact:

Ms. Hoffmann, ZIF - University of Bielefeld, D-4800 Bielefeld 1.  
(T.: 0521/106-2768)

(BiBoS is supported by the Volkswagen Foundation).

\* \* \*

Symposium

Mathematical Physics Days

"Dynamical Systems"

Santander, Spain

September 10 - 14, 1984

Speakers: O.Lanford  
F.Calogero  
I.Parcival  
Organizers: A.F.Ranada  
L.Vazquez  
L.Martinez

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September 1984

## PROGRESS REPORT

1. Members are reminded that an election is now being held for the new twelve member Executive Committee (for the term January 1, 1985 - December 31, 1987). Ballots must be received by the Secretary (L. Streit) by October 31, 1984. All members should have received a ballot with instructions and recommendations. If you did not receive a ballot you can either: (a) Request one from W. Hunziker; (b) Write your choices (any 12 names or less) on a piece of paper, seal it in an envelope on which you write your name and membership number, and mail it (in a second envelope) to Professor L. Streit, Fakultät für Physik, Universität Bielefeld, D-4800 Bielefeld 1, Germany (BRD).
2. The American Institute of Physics has just published the 1985 members' rates for their journals. The list is given in this News Bulletin. (Additional journals were listed in the December 1983 News Bulletin.) All IAMP members are eligible for these special rates. Subscription orders (with remittance and mention of IAMP membership) should be sent directly to AIP (335 E. 45 St., New York, NY 10017).

Elliott Lieb



# AMERICAN INSTITUTE OF PHYSICS

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1 August 1984

To All Affiliated Societies:

As you may know, it is the policy of the Institute to offer reduced-rate subscriptions for its own journals to individual members of Affiliated Societies. This offer is limited to one subscription per person to each journal. Following is a list of Institute-owned journals showing the member rates for 1985 which are available to individuals who are members of your Society, and, for comparison, the non-member rates. (The 1985 member rate for Review of Scientific Instruments has been decreased.)

	Domestic Rates		Foreign Rates	
	Member	Nonmember	Incl. Canada & Mexico Member	Nonmember
Journal of Applied Physics	\$80.00	\$450.00	\$126.00	\$496.00
Applied Physics Letters	40.00	260.00	63.00	283.00
The Journal of Chemical Physics	100.00	760.00	160.00	820.00
Journal of Mathematical Physics	50.00	440.00	66.00	456.00
The Physics of Fluids	45.00	395.00	65.00	415.00
Physics Today	20.00	50.00	33.00	63.00
Review of Scientific Instruments	30.00	250.00	45.00	265.00
Current Physics Index	65.00	290.00	81.00	306.00
Journal of Physical and Chemical Reference Data*	50.00	200.00	60.00	210.00
General Physics Advance Abstracts	12.00	150.00	24.00	162.00

SYMPOSIUM  
INTERNATIONAL  
SUR LES  
POLYNOMES ORTHOGONAUX  
ET LEURS APPLICATIONS  
POUR LE 150<sup>me</sup> ANNIVERSAIRE DE

E.N. LAGUERRE

BAR-LE-DUC (FRANCE)

15-18 OCTOBRE 1984

COMITE D'ORGANISATION: C.BREZINSKI, A.DRAUX (LILLE, FRANCE),  
AL MAGNUS (LOUVAIN-LA-NEUVE, BELGIQUE), P.MARONI (PARIS,  
FRANCE), A.RONVEAUX (NAMUR, BELGIQUE).

POUR PARTICIPER, CONTACTER:  
C.BREZINSKI ou A.DRAUX, U.E.R. I.E.E.A.-M 3  
UNIVERSITE DE LILLE I  
59655 VILLENEUVE D'ASCQ CEDEX FRANCE  
Tél. (20)91.92.22; Poste: 25.54



ANNOUNCEMENT

A Symposium on the Foundations of Modern Physics: 50 years of the Einstein-Podolsky-Rosen Gedankenexperiment will be held in Joensuu (Finland) at the University of Joensuu, June 16-20, 1985.

The aim of the Symposium is to give a review of the impact of the EPR-argument on the development of quantum theory, to discuss philosophical implications of the recent experimental and theoretical results on the EPR-problem to our conception of nature, and to discuss some other recent trends in the interpretation of quantum mechanics (entropy) and classical mechanics (chaos).

The scientific programme of the symposium will consist of about 20 invited addresses (30-60 min each), about 20-30 contributed papers (20-30 min each), two panel discussions (about two hours each), and a seminar on Wolfgang Pauli's philosophical ideas. The following persons have tentatively agreed to give an invited talk: N. Rosen, V. Weisskopf, R. Peierls, E. Wigner, K. Popper, H. Margenau, D. Bohm, M. Jammer, A. Shimony, A. Aspect, B. d'Espagnat, E. Beltrametti, I. Prigogine, P. Mittelstaedt, C. Piron, C. Randall, B.C. van Fraassen, H. Barreau, M. Fierz.

Contributed papers will be requested. They will be accepted after hearing the Scientific Advisory Committee.

Scientific Advisory Committee: E. Beltrametti (Genova), M. Fierz (Zürich), B.C. van Fraassen (Princeton), P. Mittelstaedt (Gologne). Additional members will be invited.

Local Organizing Committee: K.V. Laurikainen (chairman), R. Hämäläinen, A. Kallio, K. Mansikka, P. Lahti (secretary)

For all information please contact:

Pekka Lahti  
Department of Physical Sciences  
University of Turku  
SF-20500 Turku 50  
Finland

F I R S T   A N N O U N C E M E N T

VIII<sup>e</sup> CONGRES INTERNATIONAL  
DE PHYSIQUE MATHEMATIQUE

VIIIth INTERNATIONAL CONGRESS  
ON MATHEMATICAL PHYSICS



CENTRE DE PHYSIQUE THEORIQUE

16-25 JUILLET 1986

16-25 JULY 1986

CAMPUS UNIVERSITAIRE DE MARSEILLE-LUMINY

Postal address:

CPT-CNRS Luminy - Case 907 - F 13288 MARSEILLE Cedex - France

Conference Committee:

Ph.Combe (Marseille), G.F.Dell'Antonio (Rome), L.Faddeev (Leningrad), M.Mebkhout(Marseille), K.Osterwalder (Zürich, R.Sénéor (Paris), J.M.Souriau (Marseille), L.Streit (Bielefeld,Chairman), N.N.

Organizing Committee:

Ph.Combe, M.Mebkhout (Chairman), J.M.Souriau.

Request for Advice:

The Conference Committee would appreciate the advice of the Mathematical Physics Community in the preparation of the conference. Your comments and suggestions regarding topics, speakers or any other related matters will be distributed to the Conference Committee before its upcoming meeting if they reach the following address before November 10, 1984: L.Streit, Universität Bielefeld, Fakultät für Physik, D-4800 Bielefeld 1

PREPRINTS (Received in Princeton - to August 15, 1984)

- C.M. Bender (Dept. of Physics, Washington University, St. Louis, MO 63130 USA)  
K.A. Milton (Dept. of Physics, Oklahoma State Univ. Stillwater, OK 74078 USA) and D.H. Sharp (Theor. Div. Los Alamos National Lab., Los Alamos, NM 87545 USA) GAUGE INVARIANCE FOR FIELD EQUATIONS ON A MINKOWSKI LATTICE
- R. Benguria (Depto. de Physica, Univ. de Chile, Casilla 5487, San Diego, Chile) and E.H. Lieb (Dept. of Physics, Princeton Univ., Princeton, NJ 08544 USA) THE MOST NEGATIVE ION IN THE THOMAS-FERMI VON WEIZSACKER THEORY OF ATOMS AND MOLECULES
- J.T. Chayes and L. Chayes (Dept. of Physics, Harvard Univ., Cambridge MA 02138 USA) and M.B. Ruskai (The M.I. Bunting Inst., 10 Garden St. Radcliffe College, Cambridge, MA 02138 USA) DENSITY FUNCTIONAL APPROACH TO QUANTUM LATTICE SYSTEMS
- A.J. Draght (Dept. of Phys. and Astro., Univ. of Maryland, College Park, MA 20742 USA) LIE ALGEBRAIC THEORY OF CHARGED PARTICLES, OPTICS, AND ELECTRON MICROSCOPES
- P. Federbush (Dept. of Mathematics, Univ. of Michigan, Ann Arbor, MI 48109 USA) A PHASE CELL APPROACH TO YANG-MILLS THEORY, 0: INTRODUCTORY EXPOSITION; III: STABILITY, MODIFIED RENORMALIZATION GROUP TRANSFORMATION
- G.A. Goldin (Dept. of Math. Sci., Northern Illinois Univ., DeKalb, IL 60115 USA) R.Menikoff and D.H. Sharp (Theor. Div. Los Alamos National Lab., Los Alamos, NM 87545 USA) COMMENTS ON "QUANTUM STATISTICS IN TWO DIMENSIONS"
- K. Gustafson (Dept. of Math. Univ. of Colorado, Boulder, CO 80309 USA) ON THE STRUCTURE OF FINITE ELEMENT SOLENOIDAL SUBSPACES  
  
(with K. Halasi - Univ. of Colorado) VORTEX DYNAMICS OF CAVITY FLOWS
- E.M. Harrell II (School of Math. Georgia Institute of Technology, Atlanta, GA 30332-0160 USA) ON THE EXTENSION OF AMBARZUMIAN'S INVERSE SPECTRAL THEOREM TO COMPACT SYMMETRIC SPACES  
  
(with R.J. Damburg and R.K. Propin - USSR, S. Graffi and V. Grecchi - Italy, J. Cizek and J. Paldus - Canada, and H.J. Silverstone - USA)  $1/R$  EXPANSION FOR  $H_2^+$ : ANALYTICITY, SUMMABILITY, ASYMPTOTICS, AND CALCULATION OF EXPONENTIALLY SMALL TERMS
- M.L. Lapidus (Dept. of Math. Univ. of So. California, Los Angeles, CA 90089-1113, USA) PERTURBATION THEORY AND A DOMINATED CONVERGENCE THEOREM FOR FEYNMAN INTEGRALS
- C. Radin (Dept. of Math., Univ. of Texas, Austin, TX 78712 USA) TILING, PERIODICITY AND CRYSTALS
- F.E. Schroeck, Jr. (Dept. of Math., Florida Atlantic Univ., Boca Raton, FL 33431 USA) A NOTE ON THE FIELDS IN QUANTUM SPACETIME
- R. Weder (Inst. Appl Math. U.N.A.M., Apdo. Postal 20-726, 01000 MEXICO, DF) SPECTRAL AND SCATTERING THEORY IN PERTURBED STRATIFIED FLUIDS

Preprints received in Tokyo

- T. Umeda, Dept. Math. Osaka Univ., Osaka, 560 Japan, S. Kawashima and Y. Shizuta, Dept. Math. Nara Women's Univ., Nara, 630 Japan  
On the decay of solutions to the linearized equations of electro-magneto-fluid dynamics
- M. Murata, Dept. Math. Tokyo Metropolitan Univ. Setagaya, Tokyo, 158 Japan  
Large time asymptotics for fundamental solutions of Schrödinger equations.
- H. Araki, Res. Inst. Math. Sci. Kyoto Univ, Kyoto, 606 Japan  
Indecomposable representations with invariant inner product — a theory of the Gupta-Bleuler Triplet — .
- K. Yajima, Dept. Pure and Appl. Sci., Coll. Arts and Sci. Univ. Tokyo, Komaba, 153 Japan  
The quasi-classical limit of scattering amplitude I — finite range potentials
- H. Iwashita, Dept. Math. Tsukuba Univ., Ibaraki, 305 Japan  
Scattering theory for wave equations with long-range perturbations
- S. Nakamura, Dept. Math. Univ. Tokyo, Tokyo, 113 Japan  
Structure of the scattering operator for time-periodic Schrödinger equations

PREPRINTS (RECEIVED IN BIELEFELD)

- P.C.Aichelburg and F.Embacher, Institut für Theoretische Physik, Univ. Wien  
LIGHTLIKE CONTRACTIONS IN CURVED SPACETIME  
SUPERCHARGE AND BACKGROUND PERTURBATIONS OF MULTI-BLACK HOLE SYSTEMS
- S.Albeverio, Mathem.Inst., Ruhr-Universität Bochum, D-4630 Bochum 1  
and R.Høegh-Krohn, Univ. de Provence and Centre de Physique Théorique CNRS,  
Marseille, Matematisk Institutt, Univesitetet i Oslo  
THE RESONANCE EXPANSION FOR THE GREEN'S FUNCTION OF THE SCHRÖDINGER AND  
WAVE EQUATIONS  
ZiF-preprint
- S.Albeverio, address see above, Jens-Erik Fenstad, Matematisk Institutt, Univ. Oslo,  
Department of Mathematics, Stanford Univ.  
W.Karwowski, Inst.Theoretical Physics, Univ. of Wroclaw and  
T.Lindstrøm, Matematisk Institutt, Norges Tekniske Høgskole, Trondheim  
PERTURBATIONS OF THE LAPLACIAN SUPPORTED BY NULL SETS, WITH APPLICATIONS TO  
POLYMER MEASURES AND QUANTUM FIELDS  
ZiF-preprint
- S.Albeverio, address s.a.  
NON STANDARD ANALYSIS; POLYMER MODELS, QUANTUM FIELDS  
ZiF-preprint
- A.S.Alves, Departamento de Matemática, Apartado 3008, P-3000 Coimbra, Portugal  
REARRANGEMENT OF MEASURABLE FUNCTIONS  
ZiF-Preprint
- A.Amann, Laboratorium f.physik. Chemie, ETH-Zentrum, CH-8052 Zürich  
OBSERVABLE IN DER  $W^*$ -ALGEBRAISCHEN QUANTENMECHANIK
- C.d'Antoni, Istituto Matematico - Univ.dell'Aquila, L'Aquila, Italy, and  
K.Fredenhagen, Centre de Phys.Théor., C.N.R.S. - Luminy, F-13288 Marseille  
CHARGES IN SPACELIKE CONES
- H.Araki and T.Matsui, Research Institute for Mathematical Sciences, Kyoto Univ.,  
Kyoto 606, Japan  
GROUND STATES OF THE XY-MODEL  
ZiF-Preprint
- T.Arede, Fac.Engenharia - Demec, R.dos Bragas, 4000 Porto (Portugal)  
THE HEAT KERNEL ON RIEMANNIAN MANIFOLDS AND LIE GROUPS  
ZiF-preprint
- M.Baldo, Istituto Nazionale di Fisica Nucleare, Sezione Catania, Corso Italia 57,  
Catania, Italy  
L.S.Ferreira, Dep. de Fisica, Universidade de Coimbra, Coimbra, Portugal  
L.Streit, Zentrum für interdisziplinäre Forschung Universität Bielefeld  
D-4800 Bielefeld 1  
SEPARABLE POTENTIALS FROM GAMOW STATES  
ZiF-preprint
- E.Balslev, Matematisk Institut, Aarhus Universitet, DK-8000 Aarhus C  
RESONANCES, RESONANCE FUNCTIONS AND SPECTRAL DEFORMATIONS\*  
ZiF-preprint
- B.Baumgartner, Institut f.Theor.Physik, Universität Wien  
PERIHELION SHIFT AND LEVEL ORDERING I

- Ph.Blanchard, Theoretische Physik and BiBoS (Bielefeld-Bochum-Stochastik)  
Universität Bielefeld, D-4800 Bielefeld 1  
TRAPPING FOR NEWTONIAN DIFFUSION PROCESSES  
ZiF-preprint
- M.Boiti, Dep. di Fisica, Univ. di Lecce, I-73100 Lecce  
J.JP.Leon, Lab. de Phys. Mathèm., U.S.T.L., F-34060 Montpellier and  
F.Pempinelli, Dep. di Fisica, Univ. de Lecce, I-73100 Lecce  
SOLUTION OF THE CAUCHY PROBLEM FOR A GENERALIZED SINE-GORDON EQUATION
- M.Boiti, address s.a., P.J.Caudrey, Math. Dept., Univ. of Manchester, Inst. of Science  
and Technology, Manchester, England and  
F.Pempinelli, address s.a.  
A HIERARCHY OF HAMILTONIAN EVOLUTION EQUATIONS ASSOCIATED WITH A GENERALIZED  
SCHRÖDINGER SPECTRAL PROBLEM
- H.-J.Borchers, Institut f. Theoretische Physik, Universität Göttingen and  
D.Buchholz, II. Institut f. Theoretische Physik, Universität Hamburg  
THE ENERGY-MOMENTUM SPECTRUM IN LOCAL FIELD THEORIES WITH  
BROKEN LORENTZ-SYMMETRY
- H.-J.Borchers, Zentrum für interdisziplinäre Forschung (ZiF) der Universität  
Bielefeld und Institut f. Theor. Physik der Universität Göttingen  
LOCALITY AND COVARIANCE OF THE SPECTRUM  
ZiF-preprint
- E.Brüning, Zentrum für interdisziplinäre Forschung der Universität Bielefeld,  
D-4800 Bielefeld 1  
ON THE CONSTRUCTION OF RADON-PROBABILITY MEASURES ON INFINITE  
DIMENSIONAL SPACES I  
ZiF-preprint
- E. Buffet, Dep. of Mathem. Phys., University College, Belfield, Dublin, 4, Ireland  
Ph. de Smedt, Inst. voor Theor. Fysica, Univ. Leuven, B-3030 Leuven, Belgium and  
J.V. Pulè, Dep. of Mathem. Phys., Univ. College, Belfield, Dublin and  
Dublin Inst. for Adv. Stud., 10 Burlington Road, Dublin, 4, Ireland  
ON THE DYNAMICS OF BOSE-EINSTEIN CONDENSATION
- J.F. Cariñena and L.A. Ibort, Dep. de Física Teórica, Fac. de Ciencias, Universidad  
de Zaragoza  
BILAGRANGIAN CONNECTIONS AND THE REDUCTION OF LAX EQUATIONS
- G.Casati, Dep. di Fisica dell'Università di Milano, Via Celoria, 16 I-20133 Milano  
QUANTUM DYNAMICS OF CLASSICAL STOCHASTIC SYSTEMS  
ZiF-preprint
- F.J.Chinea and F.G.Guerrero, Dep. de Métodos Matem. de la Física, Facultad de  
Ciencias Físicas, Universidad Complutense, Madrid-3, Spain  
THE VACUUM EINSTEIN EQUATIONS AND DEFORMATIONS OF THE BIANCHI IDENTITY FOR  
POINCARÉ CONNECTIONS
- N.Cindro and D. Počanić, Laboratory for Nuclear Spectroscopy, Rudjer Bošković  
Institute, 41001 Zagreb, Croatia, Yugoslavia  
RESONANCES IN HEAVY-ION REACTIONS-STRUCTURAL vs. DIFFRACTIONAL MODELS  
ZiF-preprint
- G.Clément, Dep. de Phys. Théorique, Université de Constantine, Constantine, Algérie  
GRAVITATIONAL MULTI-SOLITONS IN TWO SPACE DIMENSIONS

- I. Dana, Y. Avron and J. Zak, Department of Physics, Technion-Israel Inst. of Technology, Haifa, Israel  
QUANTIZED HALL CONDUCTANCE IN A PERFECT CRYSTAL
- E.B. Davies, Dep. of Mathem., King's College, Strand, London WC2R 2LS, England and B. Simon, Division of Physics, Mathematics and Astronomy, Caltech, Pasadena, CA 91125  
ULTRA CONTRACTIVITY AND THE HEAT KERNEL FOR SCHRÖDINGER OPERATORS AND DIRICHLET LAPLACIANS
- F. Delyon, Centre de Physique Théorique, Ecole Polytechnique, 91128 Palaiseau Cedex, B. Simon and Bernard Souillard, Div. of Phys., Mathematics and Astronomy, Pasadena  
FROM POWER LOCALIZED TO EXTENDED STATES IN A CLASS OF ONE-DIMENSIONAL DISORDERED SYSTEMS
- Y. Dermenjian and J.C. Guillot, Dep. de Mathem., Avenue J.B. Clement, F-93430 Villetaneuse  
LE PROBLEME EXTERIEUR POUR L'EQUATION DES ONDES DANS UN MILIEU STRATIFIE PERTURBE
- J.P. Dias and M. Figueira, Zentrum für interdisziplinäre Forschung der Universität Bielefeld, D-4800 Bielefeld 1, permanent address: CMAF, Av. Prof. G. Pinto, 2, 1699 Lisboa Codex, Portugal  
TIME DECAY FOR THE SOLUTIONS OF A NONLINEAR DIRAC EQUATION IN ONE SPACE DIMENSION  
ZiF-preprint
- S. Doplicher, Dipartimento di Matematica, Univ. di Roma "La Sapienza", I-00185 Roma and J.E. Roberts, Universität Osnabrück, Fachbereich Physik, D-4500 Osnabrück  
A REMARK ON COMPACT AUTOMORPHISM GROUPS OF C\*-ALGEBRAS
- B. Dorizzi, B. Grammaticos, Dép. de mathém. (MTI), Centre National d'Etude de Télécommunications, F-92131, Issy-les-Moulineaux, France,  
A. Ramani, Centre de Physique Théorique, Ecole Polytechnique, F-91128 Palaiseau and P. Winternitz, C.R.M.A., Univ. de Montréal, C.P. 6128, Montréal, Québec, Canada  
INTEGRABLE HAMILTONIAN SYSTEMS WITH VELOCITY DEPENDENT POTENTIALS
- D.A. Dubin, The Open University, Walton Hall, Milton Keynes, MK7 6AA GB  
SMOOTHED COULOMB POTENTIALS FOR QUANTUM MECHANICS
- D.A. Dubin and J. Sotelo-Campos, address see above  
A THEORY OF QUANTUM MEASUREMENT BASED ON THE CCR ALGEBRA  $L^+(W)$
- S.J.L.v. Eindhoven and P. Kruszyński, Eindhoven University of Technology, P.B. 513, 5600 MB Eindhoven, Nederland  
ON GELFAND TRIPLES ORIGINATING FROM ALGEBRAS OF UNBOUNDED OPERATORS
- S.M. Eleuterio and R. Vilela Mendes, Zentrum für interdisziplinäre Forschung, Universität Bielefeld, D-4800 Bielefeld 1, permanent address: CFMC, Instituto Nacional de Investicaçao Científica, Av. Gama Pinto 2, 1699 Lisboa Codex, Portugal  
QUANTUM DISSIPATION, SCATTERING AND TUNNELING  
ZiF-preprint
- F. Embacher and P.C. Aichelburg, Institut für Theoretische Physik, Universität Wien  
STATIC SPIN-3/2 PERTURBATIONS OF A TWO-BLACK HOLE SYSTEM

- M.Endrullis and H.Englisch, Karl Marx-Univ.Leipzig, DDR-7010 Leipzig,  
LJAPUNOV INDEX FOR ERGODIC SCHRÖDINGER OPERATORS
- H.Englisch, Karl Marx-Univ.Leipzig, DDR-7010 Leipzig  
INSTABILITIES AND  $\delta$ -DISTRIBUTIONS IN SOLID STATE PHYSICS  
THE DENSITY OF LOW FREQUENCIES IN DISORDERED CHAIN
- H.Ezawa, Zentrum für interdisziplinäre Forschung der Universität Bielefeld  
D-4800 Bielefeld 1, permanent address: Dep. of Physics, Gakushuin University  
Mejiro Toshima-ku, Tokyo 171, Japan  
FERMION WITHOUT FERMIONS: THE NICOLAI MAP REVISITED  
ZiF-preprint
- A.Frigerio, Dipartimento di Fisica, Sezione Fisica Teorica, Univ. di Milano,  
Via Celoria 16, I-20133 Milano, Italy; and INFN, Sezione di Milano  
COVARIANT MARKOV DILATIONS OF QUANTUM DYNAMICAL SEMIGROUPS
- F.Gesztesy, Zentrum für interdisziplinäre Forschung Universität Bielefeld  
D-4800 Bielefeld 1  
PERTURBATION THEORY FOR RESONANCES IN TERMS OF FREDHOLM DETERMINANTS<sup>+</sup>  
ZiF-preprint
- I.Goldseid, Polytechnical Institute Celjabinsk UdSSR  
A REVIEW OF SOME MATHEMATICAL RESULTS IN LOCALIZATION THEORY
- H.Grosse, Institut für Theor.Phys., Boltzmannngasse 5, A-1090 Wien and  
K.R.Ito, Zentrum f.interdisziplinäre Forschung Universität Bielefeld  
(on leave from: Dept. of Math. Bedford College, Univ. of London, Regent's  
Park, London NW 1, U.K.  
NEW APPROACH TO POLYACETYLENE BY 2D EUCLIDEAN YUKAWA MODEL FORMALISM  
ZiF-preprint
- H.Grosse and A.Pflug, Institut für Theor.Physik, Universität Wien  
ON THE STRUCTURE OF THE PERIODIC SYSTEM
- A.Grossmann and Thierry Paul, Centre de Physique Théorique, Section 2  
CNRS - Luminy, Case 907, F-13288 Marseille, Cedex 9  
WAVE FUNCTIONS ON SUBGROUPS OF THE GROUP OF AFFINE CANONICAL TRANSFORMATIONS  
ZiF-preprint
- H.-R.Grümm, H. Narnhofer and W.Thirring, Institut für Theor.Phys., Univ. Wien  
ON THE HALL CURRENT IN QUANTUM THEORY
- R.Haag, H.Narnhofer, Ulrich Stein, II.Inst. f.Theor.Physik, Universität Hamburg  
DESY, Notkestr. 85, 2000 Hamburg 52  
ON QUANTUM FIELD THEORY IN GRAVITATIONAL BACKGROUND
- H.Holden, R.Høegh-Krohn, M.Mebkhout, Zentrum für interdisziplinäre Forschung  
Universität Bielefeld  
THE SHORT RANGE-EXPANSION FOR MULTIPLE WELL SCATTERING THEORY  
ZiF-preprint
- M.Hoffmann-Ostenhof, Institut für Theoretische Physik, Universität Wien and  
T.Hoffmann-Ostenhof, Institut für Theoretische Chemie und Strahlenchemie,  
Universität Wien, Währingerstr. 17, 1090 Wien  
ABSENCE OF AN  $L^2$ -EIGENFUNCTION AT THE BOTTOM OF THE SPECTRUM OF THE  
HAMILTONIAN OF THE HYDROGEN NEGATIVE ION IN THE TRIPLET S-SECTOR
- M.Hoffmann-Ostenhof, address s.a., T.Hoffmann-Ostenhof and J.Swetina,  
Institut für Theor.Chemie und Strahlenchemie, Universität Wien  
POINTWISE BOUNDS ON THE ASYMPTOTICS OF SPHERICALLY AVERAGED  
EIGENFUNCTIONS OF ONE-BODY SCHRÖDINGER OPERATORS



- L.P.Horwitz, Tel Aviv University, Ramat Aviv, Israel  
ON THE ELECTROMAGNETIC INTERACTION IN RELATIVISTIC QUANTUM MECHANICS
- E.G.Kalnins, Department of Mathematics, University of Waikato, Hamilton New Zealand  
SEPARATION OF VARIABLES FOR THE COMPLEX LAPLACE EQUATION IN N DIMENSIONS
- E.G.Kalnins and W.Miller jr., University of Waikato, Hamilton, New Zealand  
SEPARATION OF VARIABLES FOR COMPLEX RIEMANNIAN SPACES OF CONSTANT  
CURVATURE, NON ORTHOGONAL COORDINATES
- G.Karner, Zentrum für interdisziplinäre Forschung and Fakultät für Physik,  
Universität Bielefeld, D-4800 Bielefeld 1  
COUPLING CONSTANT THRESHOLDS IN CERTAIN N-BODY SYSTEMS  
ZiF-preprint
- W.Kirsch (on leave from Inst. f.Mathematik, Ruhr-Universität, D-4630 Bochum)and  
B.Simon, Division of Physics, Mathematics and Astronomy, California Institute  
of Technology, Pasadena, Ca. 91125  
UNIVERSAL LOWER BOUNDS ON EIGENVALUE SPLITTINGS FOR ONE DIMENSIONAL  
SCHRÖDINGER OPERATORS
- S.Kusuoka, Dep.of Mathem.,Faculty of Science,Univ.of Tokyo, Tokyo,Japan and  
Zentrum für interdisziplinäre Forschung der Univ.Bielefeld,D-4800 Bielefeld 1  
ON THE PATH PROPERTY OF EDWARDS'S MODEL FOR LONG Polymer CHAINS IN THREE  
DIMENSIONS  
ZiF-Preprint
- M.L.Lapidus, University of Southern California, Dep. of Mathematics - DRB 306  
Los Angeles, Ca. 90089-1113, USA  
PERTURBATION THEORY AND A DOMINATED CONVERGENCE THEOREM FOR  
FEYNMAN INTEGRALS
- F.Martinelli, Dipartimento di Matematica, Università di Trento,Povo,Trento and  
E.Scoppola, Dipartimento di Fisica, Univ. "La Sapienza", Roma  
A REMARK ON THE ABSENCE OF ABSOLUTELY CONTINUOUS SPECTRUM IN THE  
ANDERSON MODEL FOR LARGE DISORDER OR LOW ENERGY  
ZiF-preprint
- T.Murphy, School of Theoretical Physics, Dublin Institute for Adv.Studies,  
Dublin 4, Ireland  
SYMMETRY BREAKING PATTERNS IN  $SO(n)$  SYMMETRIC THEORIES
- Pt.Muthuramalingam, Zentrum für interdisziplinäre Forschung der Universität Bielefeld  
permanent address: Indian Statistical Institute New Delhi 110016, India  
SCATTERING THEORY BY ENSS' METHOD FOR OPERATOR VALUED MATRICES: DIRAC  
OPERATOR IN AN ELECTRIC FIELD  
  
ENSS' THEORY IN LONG RANGE SCATTERING: SECOND ORDER HYPERBOLIC AND  
PARABOLIC OPERATORS  
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