

INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS



IAMP NEWS BULLETIN

January 1985

Progress Report

1. The 1985 special subscription prices to *Communications in Mathematical Physics* for IAMP members has been determined by Springer Verlag. They are listed in this issue of the News Bulletin.
2. The Executive Committee of the IAMP, at the request of the organizers (A. Frigerio and V. Gorini), has agreed to sponsor the meeting on "Fundamental Aspects of Quantum Theory" in Villa Olmo, Como, Italy, September 2-7, 1985. The Committee also decided to contribute \$500 toward the expenses of the meeting.
3. The election of the new Executive Committee (to serve from January 1, 1985 - December 31, 1987) has been completed. The new Executive Committee (in order of votes received) is K. Osterwalder, S. Novikov, J.L. Lebowitz, W. Thirring, H. Araki, J.T. Lewis, J.R. Klauder, C.A. Hurst, S.T. Kuroda, B. Simon, J. Niederle, Ph. Blanchard. The four officers will, in accordance with the statutes, be chosen from and by these twelve. The results will be announced by the Secretary.
4. Important Notice: From the inception of IAMP, all western hemisphere business was handled by Mrs. Grace Anderson at Princeton University. The Association is indebted to her and expresses its thanks for all her work on our behalf. From now on this work will be divided as follows:

The News Bulletin: The mailing of the Bulletin (western hemisphere) and collection of preprints will be done by Prof. B. Simon, Department of Mathematics, California Institute of Technology, Pasadena, CA 91125.

Dues Collection: All members wishing to pay dues in U.S. dollars should send them to Dr. J. Klauder, A.T. & T. Bell Laboratories, Murray Hill, NJ 07974. Inquiries concerning these two matters should be addressed to either Simon or Klauder.

5. It is a pleasure to welcome Adam Hilger Ltd., the book publishing company of the Institute of Physics (U.K.) as an associate member of IAMP. Their offer of a 15% discount to IAMP members is listed in this Bulletin, along with 1985 reduced subscription rates to Institute of Physics Journals.

6. This is the last issue of the News Bulletin to appear during my presidency, and I join the other members of the Executive Committee (W. Hunziker, Vice President, K. Osterwalder, Treasurer, L. Streit, Secretary, N.N. Bogolubov, H. Borchers, S.T. Kuroda, J. Lebowitz, J. Lewis, J. Niederle, D. Robinson, D. Sternheimer) in thanking the members for their support. Since its founding in 1977, the Association has developed into a well established forum for the encouragement of, and dissemination of information in, the field of Mathematical Physics. One of its strong points is that it is an association of individual members (as distinguished from national delegations) from all over the world. More, however, can surely be done to increase the usefulness of the IAMP and members are encouraged to continue to communicate their ideas to the next President. With best wishes,

Elliott Lieb

Election of the IAMP Executive Committee

Ballot forms - 233

List of the top 24 persons in the 1984 elections (with numbers of votes)

K. Osterwalder	154
S. Novikov	136
J.L. Lebowitz	132
W. Thirring	130
M. Araki	126
J. T. Lewis	126
J.R. Klauder	111
C.A. Hurst	109
S.T. Kuroda	105
B. Simon	105
J. Niederle	89
Ph. Blanchard	83
F. Calogero	82
O. Penrose	74
K.R. Parthasarathy	65
R. Seneor	64
A. Galindo	55
B. Souillard	54
A. Verbeure	53
D. Szasz	53
J. Perez	50
D.W. Robinson	49
J.L. Challifour	34
J. Fröhlich	23

# INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS

President:

Prof. E. LIEB  
Jadwin Hall - Princeton University  
P.O. Box 708  
Princeton, NJ 08544, USA

Vice President:

Prof. W. HUNZIKER  
Theoretische Physik  
ETH - Honggerberg  
CH-8093 Zurich, SWITZERLAND



Secretary:

Prof. L. STREIT  
Fakultat fur Physik  
Universitat Bielefeld  
D-4800 Bielefeld 1, GERMANY BRD

Treasurer:

Prof. K. OSTERWALDER  
Mathematisches Seminar  
ETH - Zentrum  
CH-8092 Zurich, SWITZERLAND

## Financial Report 1983 ===== (Jan. 1, 1983 - Dec. 31, 1983)

### 1) Central Account in Geneva (SFr.)

<u>Income</u>	Carried forward from 1982		SFr. 5,043.32
	Dues received 1983		<u>SFr. 6,233.55</u>
	Total		SFr.11,276.87
<u>Expenditure</u>			
	Payment to Prof. M. Hunziker (for secretarial work)	./.	<u>SFr. 660.--</u>
<u>Balance</u>	per 01.01.84		<u>SFr.10,616.87</u> =====

### 2) Princeton Account (US \$)

<u>Income</u>	Carried forward from 1982		\$ 6,213.27
	Dues received 1983		\$ 3,423.00
	Interest on bank account (Nassau Savings)		123.05
	Interest on Merrill Lynch account		<u>\$ 454.54</u>
	Total		\$ 10,213.86
<u>Expenditure</u>			
	Postage		245.54
	Printing		313.20
	Contribution to VII Int'l Conference in Boulder (Col.) August 1983		<u>2,000.00</u>
	Total	./.\$	<u>2,558.74</u>
<u>Balance</u>	per 01.01.84		<u>\$ 7,655.12</u> =====

Holdings:

Nassau Savings and Loan Ass.	\$ 797.64
Merrill Lynch Perce Fenner and Smith, Ready Assets Account	<u>\$ 6,857.48</u>
Total	<u>\$ 7,655.12</u> =====

3) Sparkasse Bielefeld (DM)

<u>Income</u>	Carried forward from 1982		DM 7,605.15
	Dues received 1983		DM 3,399.--
	Interest		<u>DM 59.69</u>
	Total		DM 11,063.84
<u>Expenditure</u>	Bank fee	DM 141.48	
	Rückzahlung Völk1	<u>DM 48.--</u>	./.
			DM 189.48
<u>Balance</u>	per 01.01.84		<u>DM 10,874.36</u> =====

4) Tokyo Account (Y)

<u>Income</u>	Carried forward from 1982		Y 390,514.--
	Dues received 1983		Y 84,700.--
	Interest		<u>Y 5,091.--</u>
	Total		Y 480,305.--
<u>Expenditure</u>	Printing and mailing Y bulletins	Y 61,876.--	
	Other postages	<u>Y 3,000.--</u>	./.
			Y 64,876.--
<u>Balance</u>	per 01.01.84		<u>Y 415,429.--</u> =====

5) Warszawa Account (Zl.)

<u>Income</u>	Carried forward from 1982	Zl. 12,600.--
	Dues received 1983	<u>Zl. 11,400.--</u>
	Total balance per 01.01.84	<u>Zl. 24,000.--</u> =====

Konrad Osterwalder, Treasurer



FIRST ANNOUNCEMENT

**ADVANCES IN LATTICE GAUGE THEORY**

APRIL 10-13, 1985

THE FLORIDA STATE UNIVERSITY

TALLAHASSEE, FLORIDA 32306

As part of its newly formed research program in computational science, the Supercomputer Computations Research Institute (SCRI) of the Florida State University will sponsor an international conference on Advances in Lattice Gauge Theory. This conference will bring together active participants in this area of research to report on their latest results and their plans for the future. In addition to several invited talks, we will organize numerous contributed talks in order to ensure that the very latest advances are represented.

Please see the attached sheet for information on registration and accommodations. A second announcement will be circulated in February, 1985.

Further information on the SCRI is included on a separate enclosure. For more information on this conference, please contact Dr. Dennis W. Duke, Department of Physics, The Florida State University, Tallahassee, Florida 32306, phone (904)644-3523/1492/1010.

ADVANCES IN LATTICE GAUGE THEORY

ACCOMODATIONS

The Duval Hotel has been designated as the conference hotel. A rate of \$35.00(single)/ \$45.00(double) is available. The hotel will provide limited transportation to and from the Conference Center. Reservations must be made by March 30 and should be made directly with the hotel by calling (904)224-2727 or by writing the Duval Hotel, 415 N. Monroe Street, Tallahassee, Florida 32301. If airport pick-up is needed, please request this service when making hotel reservations.

FEES

The fee for this conference is \$75.00. This fee will cover three lunches, the banquet dinner and a copy of the conference proceedings.

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ADVANCES IN LATTICE GAUGE THEORY

REGISTRATION FORM

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: (\_\_\_\_\_) \_\_\_\_\_

Fee: \$75.00

Check or money order for \$ \_\_\_\_\_ enclosed  
(Make check payable to The Florida State University)

Please charge \$ \_\_\_\_\_ fee to my Visa/Mastercard account  
number \_\_\_\_\_, expiration date \_\_\_\_\_

Signature: \_\_\_\_\_  
(Required for charge payments)

Mail completed form and payment to:

Conference Registrar  
Center for Professional Development and Public Service  
The Florida State Conference Center  
The Florida State University  
Tallahassee, Florida 32306

For more information please call Susan Lampman at (904)644-3801.

FIRST ANNOUNCEMENT

The University of Groningen organizes an international conference on

STATISTICAL MECHANICS AND FIELD THEORY, MATHEMATICAL ASPECTS

to be held in Groningen, August 26-30, 1985.

TOPICS:

- Random Systems
- Phase Transitions
- Continuum Limit
- Renormalization Group
- Applications of Operator Algebras
- K-theory

SCIENTIFIC ADVISORY COMMITTEE:

- H. Araki
- J. Fröhlich
- R. Haag
- N.M. Hugenholtz
- J.L. Lebowitz

LOCAL ORGANIZING COMMITTEE:

T. Dorlas, N.M. Hugenholtz, M. Winnink

FOR MORE INFORMATION WRITE TO:

The Institute for Theoretical Physics  
University of Groningen  
P.O. Box 800  
9700 AV Groningen  
Netherlands



Seoul National University  
Department of Physics  
Seoul 151, Korea

Dec. 18, 1984

Professor L. Streit, IAMP  
Fakultät für Physik  
Universität Bielefeld  
D-4800 Bielefeld  
W. Germany

Dear Professor Streit,

The Korean Physical Society will host the 14th International Colloquium on Group Theoretical Methods in Physics (ICGTMP) in Seoul during 26-30 August next year, which is sponsored by the International Union of Pure and Applied Physics (IUPAP). On behalf of the Program Committee of the Seoul Conference I take a great pleasure in inviting you to participate in the Seoul ICGTMP.

The Conference is organized into four divisions: A) Mathematical and General, B) Low Energy Physics, C) Statistical Mechanics and Non-linear Dynamics, and D) Particle Physics and Relativity. For each division there will be one Colloquium, three Parallel Sessions, and two or three Poster Sessions. The Colloquium talks are for up-to-dated reviews, the Parallel Session talks are for presenting new results, and the Poster Sessions are for expert-to-expert communications and exchange of preprints. The expected number of the audience is about 350, which was the number of the audience at the last Maryland meeting.

The enclosed form is to help us organizing the Seoul Conference. I would appreciate it very much if you could let us know about your intention by returning it in your earliest convenience. Your participation in the Seoul Conference would make it more successful and enjoyable. With best wishes.

Sincerely yours,

A handwritten signature in dark ink, appearing to read 'A.M. Cho', written over a horizontal line.

A.M. Cho  
Program Committee  
14th ICGTMP  
Telex : SNUROK K29664  
Dept. of Physics

P.S. You might also be interested in the following conferences in Japan:

- a) Yukawa Conference; 15-17, August 1985, Kyoto.
- b) Lepton-Photon Conference; 19-24, August 1985, Kyoto.

The flight time from Kyoto to Seoul is less than two hours.



THE XIV INTERNATIONAL COLLOQUIUM ON GROUP THEORETICAL METHODS IN PHYSICS  
(Sponsored by IUPAP)

Seoul, Korea

26-30 August, 1985

Preliminary Registration Questionnaire

1) Name : \_\_\_\_\_  
                                (First)  (Last)

2) Mailing address : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone \_\_\_\_\_ Telex \_\_\_\_\_

3) I wish to participate in the 14th Seoul ICGTMP : Yes \_\_\_\_\_  
4) I am interested in making the following scientific contribution(s):

- a) Colloquium talk (60-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- b) Parallel Session talk (30-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- c) Poster \_\_\_\_\_ Division \_\_\_\_\_

The most probable title of my talk is \_\_\_\_\_  
\_\_\_\_\_

- Division : A) Mathematical and General  
            B) Low Energy (Atomic, Condensed Matter, and Nuclear) Physics  
            C) Non-Linear Dynamics and Critical Phenomena  
            D) Particle Physics and Relativity

5) There is a limited fund for travel expenses. Do you wish to apply for it? Yes \_\_\_\_\_, No \_\_\_\_\_.

6) Please return this form as soon as possible (before the end of January, if you could) to :

Y.M. Cho  
Dept. of Physics  
Seoul National University  
Seoul 151, Korea

Date \_\_\_\_\_ Signature \_\_\_\_\_

F I R S T A N N O U N C E M E N T

The Universities of Heidelberg, Leuven and Rome and the Dublin Institute for Advanced Studies organize under the sponsorship of the E.E.C. an Advanced Study and Research Institute on

## QUANTUM PROBABILITY AND APPLICATIONS

to be held at the University of Leuven, Belgium  
from September 9 to September 27 1985

A series of introductory lectures will be delivered on each of the following topics: Introduction to quantum probability, and to quantum stochastic processes; operator algebras in physics ; models in statistical mechanics and the moment method; analytic aspects of semigroups; quantum probability in physics and quantum stochastic differential equations.

In addition short advanced courses of a more specialized nature will be given. There will be ample time for discussion, organizing seminars and for other research activities by participants.

Among the lecturers one has : L. Accardi, G. Casati , D. Evans, M. Fannes, A. Frigerio, H. Grabert, R. Hudson, J. Lewis, G. Lindblad, K.R. Parthasarathy, J. Quaegebeur, A. Verbeure, W. von Waldenfels.

The course is open to everybody interested and is primarily intended to be of postgraduate level. Limited funds for travel and living expenses are available. Applications for these funds must be made before March 1, 1985.

The organizing committee

L. Accardi

J.T. Lewis

A. Verbeure

W. von Waldenfels

Correspondence should be sent to:

Dr. M. Fannes; Universiteit Leuven, Celestijnenlaan 200 D, B-3030 Leuven (Belgium).

SPRINGER-Verlag Berlin Heidelberg New York Tokyo

The prices for 1985 for the journal COMMUNICATIONS IN MATHEMATICAL PHYSICS.

Number of volumes: 5 (97-101); issues per volume: 4

Institutional subscribers:

Total: DM 2130 (DM 426 per volume) plus carriage charges

The following prices are valid for the members of the IAMP:

Private subscribers outside USA:

Total: DM 240 (DM 48 per volume) plus carriage charges

Private subscribers USA (IAMP orders handled by Prof.A.Jaffe):

§ including carriage charges

Carriage charges:

Germany: DM 35.31; foreign countries: DM 73; Japan: DM 147

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ADAM HILGER Ltd, Bristol and Boston, has become an Associate Member.  
Adam Hilger is the book-publishing company of the Institute of Physics (UK)  
and offers IAMP members a 15% discount on book titles published by  
Adam Hilger Ltd and by The Institute of Physics. The addresses for further  
information or prepaid orders are:

Adam Hilger Ltd, Attn: Mr. M. Beavis,  
Techno House, Redcliffe Way, Bristol BS1 6NX, England.  
Telephone: 0272-276693

and for members in the US, Canada and Mexico:

Adam Hilger Ltd, Attn: Ms. Eileen Andrews,  
P.O.Box 230, Accord, MA 02018, USA  
Telephone: (617) 749-2966/7

*Inverse Problems* will report current work in an active and expanding field of research, of interest to practitioners in seismology and prospecting, particle scattering, pattern recognition, radar imaging and many other fields where maximum information needs to be extracted from experimental results.

The purpose of this new journal is to combine theoretical and mathematical papers on inverse problems with numerical and practical approaches to their solution. The main audience is pure and applied mathematicians and physicists but the journal also has more specialised appeal to workers in geophysics, optics, radar, acoustics, communication theory and signal processing. All inverse problems, inverse methods and data inversion methods are within the scope of this journal, including applications to tomography, systems identification, non-destructive evaluation and non-linear evolution equations. The emphasis will be on publishing original contributions to methods of solving mathematical, physical and applied problems. *Inverse Problems* will include contributions on:

**General theory:** Joint interpretation and information content of data. Generalised information theory.

**Electromagnetic inverse problems:** Radar, laser imaging, metrology, tomography (in oceanography, studies of flames, x or gamma scanning of defects, geophysics, etc), earth electromagnetic sounding, neutron diffraction.

**Elastic wave inverse problems:** Ultrasonic imaging and tomography, sonar, inverse seismology problems, echography and echotomography.

**Potential inverse problems:** Gravimetry, magneto-telluric inverse problems.

**Quantum wave inverse problems:** Quantum-mechanical scattering.

**Excited source inverse problems:** Nuclear magnetic resonance.

**Inverse source problems:** Thermography.

**Mathematical application of inversion methods:** Inverse scattering transforms.

**Interpretation theory and other non-destructive sensings.**

Further examples of appropriate subjects, not specifically mentioned above, include the inverse chemistry and geochemistry problems, the inverse hydrogeologic problem and the inverse tsunami problem.

## Editorial Board

The journal has an International Editorial Board representing both the range of topics included in the journal, and the geographical distribution of active work in the field.

**Editor:** P C Sabatier *Laboratoire de Physique Mathématique,  
Université des Sciences et Techniques du Languedoc,  
Place Eugène-Bataillon, 34060 Montpellier Cédex, France*

M Bertolo *Dipartimento di Fisica, Università di Genova, Via Dodecaneso 33, 16146 Genova, Italy*  
W M Boerner *Communications Laboratory, University of Illinois, PO Box 4348, Chicago, Illinois 60680, USA*  
R K Bullough *Department of Mathematics, University of Manchester Institute of Science and Technology, PO Box 88, Manchester M60 1QD, UK*  
F Calogero *Dipartimento di Fisica, Università degli Studi, Piazze Aldo Moro 2, 00185 Rome, Italy*  
G Chavent *INRIA Laboris, Domaine de Voluceau, Rocquencourt, BP No 105, 78150 La Chesnay, France*  
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F Gilbert *Institute of Geophysics and Planetary Physics, University of California at San Diego, La Jolla, California 92037, USA*  
A Grünbaum *Mathematics Department, University of California, Berkeley, California 92037, USA*  
R G Newton *Department of Physics, Indiana University, South Hall West 117, Bloomington, Indiana 47405, USA*  
E R Pike *Royal Signals and Radar Establishment, St Andrews Road, Great Malvern, Worcs WR14 3PS, UK*  
S Treitel *Amoco Production Co., 4502 East 41 Street, PO Box 591, Tulsa, Oklahoma 74102, USA*

Contributions to *Inverse Problems* will be refereed to the high standards expected from journals published by The Institute of Physics.

## Subscription and Ordering Information

*Inverse Problems* ISSN: 0266-5611 Coden: INPEEY

1985 Volume 1 4 issues (February, May, August, November)

Subscription rates for all countries UK£105.00 microfiche UK£63.00  
except USA, Canada and Mexico US\$185.00 microfiche US\$111.00

These prices include overseas delivery by airspeeded postal and/or freight services from the UK. Microfiche editions are despatched by airmail. US\$ prices apply for subscribers in USA, Canada and Mexico only.

Orders may be placed through subscription agents or prepaid direct to:

Physics Trust Publications, Techno House, Redcliffe Way, Bristol BS1 6NX, England

Orders from USA, Canada, Mexico, Japan, India, Pakistan and Korea should be sent to our agents listed on the order form attached.

PREPRINTS (Received in Princeton)

December, 1984

- C.M. Bender (Dept. of Physics, Washington Univ., 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 AND THE FINITE-ELEMENT  
SOLUTION OF THE SCHWINGER MODEL
- F.H. Brownell (Dept. of Mathematics, Univ. Washington, Seattle, WA 98195  
USA) REAL AXIS ASYMPTOTICS, ESTIMATES, AND WEAK HOLDER CONTINUITY  
OF HAMILTONIAN RESOLVENTS AND KERNELS
- J. Fleckinger (Univ. Paul Sabatier, Dept. de Math. 118, route de Narbonne  
31062, Toulouse, Cedex France) and M.L. Lapidus (Univ. of S. Calif.  
Dept. of Math., University Park, Los Angeles, CA 90089 USA)  
EIGENVALUES OF ELLIPTIC BOUNDARY VALUE PROBLEMS WITH AN INDEFINITE  
WEIGHT FUNCTION
- J. Dimock (Dept. of Mathematics, SUNY at Buffalo, Buffalo, NY 14214 USA)  
(QED)<sub>2</sub> IN THE COULOMB GAUGE
- J. Glimm (Courant Inst. of Math. Sci. 251 Mercer Street, New York, NY  
10012 USA), C. Klingenberg, O. McBryan, B. Plohr, D. Sharp, and  
S. Yaniv FRONT TRACKING AND TWO DIMENSIONAL RIEMANN PROBLEMS
- D. Masson (Dept. of Mathematics, University of Toronto, Toronto M5S 1A1  
Canada) CONVERGENCE AND ANALYTIC CONTINUATION FOR A CLASS OF  
REGULAR C-FRACTIONS
- R. Newton (Dept. of Physics, Indiana Univ., Bloomington, IN 47405 USA)  
A FADDEEV-MARCHENKO METHOD FOR INVERSE SCATTERING IN THREE DIMENSIONS;  
INVERSE SCATTERING BY A LOCAL IMPURITY IN PERIODIC POTENTIAL IN ONE  
DIMENSION, II;  
A REPRESENTATION OF THE POTENTIAL IN THE SCHRODINGER EQUATION;  
REMARKS ON THE RELATION BETWEEN THE SCHRODINGER EQUATION AND THE  
PLASMA WAVE EQUATION;  
THE MARCHENKO AND GEL'FAND-LEVITAN METHODS IN THE INVERSE SCATTERING  
PROBLEM IN ONE AND THREE DIMENSIONS
- P.A. Vuillermot (Dept. of Mathematics, The University of Texas, Arlington TX  
TX 76019 USA)  $C^{2,\alpha}(\Omega) \cap C^{0,\beta}(\bar{\Omega})$ -REGULARITY FOR THE SOLUTIONS OF  
STRONGLY NONLINEAR EIGENVALUE PROBLEMS ON ORLICZ-SOBOLEV SPACES;  
EXISTENCE AND REGULARITY THEORY FOR ISOPERIMETRIC VARIATIONAL PROBLEMS  
ON ORLICZ-SOBOLEV SPACES: A REVIEW
- H.A. Warchall (Dept. of Mathematics, The University of Texas at Austin,  
Austin, TX 78712 USA)  $C^*$ -ALGEBRAIC SCATTERING THEORY AND EXPLICITLY  
SOLVABLE QUANTUM FIELD THEORIES;  
SIMPLE PHYSICAL MODELS ENTAILING INEQUIVALENT REPRESENTATIONS OF THE  
CCR
- R. Weder (Inst. de Investigaciones en Matematicas Aplicadas, UNAM, Apdo  
Postal 20-726, 01000 Mexico DF) SPECTRAL AND SCATTERING THEORY IN  
PERTURBED STRATIFIED FLUIDS, II, TRANSMISSION PROBLEMS, AND EXTERIOR  
DOMAINS;  
SPECTRAL AND SCATTERING THEORY IN PERTURBED STRATIFIED FLUIDS

Preprints received in Tokyo

- O. Maeda, Dept. Pure and Appl. Sci., Coll. Arts and Sci., Univ. Tokyo, Komaba, Tokyo 153 Japan  
On a relation between some operator inequalities and two positivity
- T. Kawai, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 606 Japan  
The Fabry-Ehrenpreis gap theorem and linear differential equations of infinite order.
- M. Kashiwara and T. Kawai, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 606 Japan  
A differential relation between  $\theta(t+a)$  and  $\theta(t)$ .
- A. Arai, ZIF Univ. Bielefeld, 4800 Bielefeld 1 BRD and Dept. Math. Tokyo Inst. Tech., Ohokayama, Tokyo 152 Japan  
On mathematical construction of supersymmetric quantum field theory associated with Parisi-Wu stochastic quantization.
- K. Kikuchi, Dept. Math. Osaka Univ., Osaka 560 Japan  
Asymptotic behavior at infinity of the Green function of a class of systems including wave propagation in crystals.
- H. Isozaki, Dept. Math. Kyoto Univ., Kyoto, 606 Japan  
Asymptotic properties of solutions to the linearized equation of magnetohydrodynamics
- T. Kawai, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 606 Japan  
The Fabry-Ehrenpreis gap theorem for hyper-functions.
- T. Kawai, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 606 Japan  
System of microdifferential equations of infinite order.
- S. Miyajima and N. Okazawa, Dept. Math. Science Univ. Tokyo, Wakamiya-cho, Tokyo 162 Japan  
Generators of positive  $C_0$ -semigroups on Banach lattices.

PREPRINTS (RECEIVED IN BIELEFELD)

- A. Alastuey, Laboratoire de Physique Théorique et Hautes Energies, Université de Paris-Sud, F-91405 Orsay, France, and Ph.A. Martin, Institut de Physique Théorique, Ecole Polytechnique Fédérale de Lausanne PHB-Ecublens, CH-1015 Lausanne, Suisse  
DECAY OF CORRELATIONS IN CLASSICAL FLUIDS WITH LONG RANGE FORCES
- J. Bernasconi and W.R. Schneider, Brown Boveri Research Center, CH-5405 Baden/Switzerland  
RANDOM WALKS IN ONE-DIMENSIONAL RANDOM MEDIA
- Ph. Blanchard and J. Stubbe, Theoretische Physik and BiBoS, Univ. Bielefeld, D-4800 Bielefeld  
PROOF OF A CONJECTURE BY POLYA ABOUT THE EIGENVALUES OF THE CLASSICAL DIRICHLET PROBLEM  
BiBoS-preprint
- M. Boiti, Dip. di Fisica dell'Università, Lecce, Italy, B.G. Konopelchenko, permanent address: Institute of Nuclear Physics, Novosibirsk 90, 630090 USSR, and F. Pempinelli, Dip. di Fisica, Univ. Lecce, Italy  
BACKLUND TRANSFORMATIONS VIA GAUGE TRANSFORMATIONS IN 2+1 DIMENSIONS(+)
- J. Bricmont, Institut de Physique Théorique; chemin du Cyclotron, 2 B-1348 Louvain-la-Neuve, Belgium, K. Kuroda, Department of Mathematics, Keio University, Hiyoshi 3-14-1, Kohoku-ku; Yokohama 223, Japan, and J.L. Lebowitz, Department of Mathematics and Physics, Rutgers Univ., New Brunswick, NJ 08903 U.S.A.  
FIRST ORDER PHASE TRANSITIONS IN LATTICE AND CONTINUOUS SYSTEMS: EXTENSION OF PIROGOV-SINAI THEORY
- E. Buffet, Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4, Ireland and J.V. Pulé, permanent address: Dept. of Math., N.I.H.E., Dublin 9, Ireland, Dep. of Mathematical Physics, University College, Belfield, Dublin 4, Ireland  
A HARD CORE BOSE GAS
- J. Burzlaff, Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4, Ireland, T.N. Sherry, permanent address: Dept. Math. Phys., University College, Galway, Ireland, and D.H. Tchrakian, permanent address: Dept. Math. Phys., St. Patrick's College, Maynooth, Ireland  
DIMENSIONAL REDUCTION, VORTICES AND SADDLE POINTS
- S. Caracciolo, Scuola Normale Superiore, Pisa, Italy, and INFH, Sezione di Pisa, Pisa, Italy and H. Yoneyama, Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4, Ireland  
OPTIMIZATION OF THE POTENTIAL SHIFTING IN THE MARTINELLI-PARISI EXPANSION OF THE  $Z(2)$  GAUGE THEORY ON A CUBIC LATTICE
- J.F. Cariñena, M.A. del Olmo and M. Santander, Departamento de Física Teórica Facultad de Ciencias, Universidad de Zaragoza, Spain  
LOCAL REPRESENTATION GROUPS
- J.F. Cariñena and Luis A. Ibort, Departamento de Física Teórica, Facultad de Ciencias, Universidad de Zaragoza, Spain  
LOCALLY HAMILTONIAN SYSTEMS WITH SYMMETRY AND A GENERALIZED NOETHER'S THEOREM  
EQUIVALENT SINGULAR LAGRANGIANS
- G. Clément, Département de Physique Théorique, Université de Constantine, Constantine, Algérie  
STATIONARY SOLUTIONS IN FIVE-DIMENSIONAL GENERAL RELATIVITY  
I. STATIC SOLUTIONS  
STATIONARY SOLUTIONS IN FIVE-DIMENSIONAL GENERAL RELATIVITY  
II. A CLASS OF REGULAR ROTATING SOLUTIONS

- I. Daubechies, Theoretische Natuurkunde Vrije Universiteit Brussel,  
B-1050 Brussels - Belgium and John R. Klauder, AT&T Bell Laboratories,  
Murray Hill, NJ 07974, USA  
QUANTUM MECHANICAL PATH INTEGRALS WITH WIENER MEASURES FOR ALL POLYNOMIAL  
HAMILTONIANS. II.
- F. Delyon, Centre de Physique Théorique de l'Ecole Polytechnique, Plateau de  
Palaiseau, F-91128 Palaiseau-Cedex, France "Groupe de Recherche du  
C.N.R.S. n° 48"  
APPARITION OF PURELY SINGULAR CONTINUOUS SPECTRUM IN A CLASS OF RANDOM  
SCHROEDINGER OPERATORS
- F. Delyon, Centre de Physique Théorique, Ecole Polytechnique, F-91128 Palaiseau  
Cedex, France, Barry Simon, Division of Physics, Mathematics and Astronomy,  
California Institute of Technology, Pasadena CA 91125 USA, and  
B. Souillard, Centre de Physique Théorique, Ecole Polytechnique,  
F-91128 Palaiseau Cedex, France  
FROM POWER PURE POINT TO CONTINUOUS SPECTRUM IN DISORDERED SYSTEMS
- J. Dittrich, P. Exner, JINR, Dubna, Head Post Office, P.O. Box 79, 101000 Moscow USSR.  
TUNNELLING THROUGH A SINGULAR POTENTIAL BARRIER.  
I THE MAIN RESULTS  
TUNNELLING THROUGH A SINGULAR POTENTIAL BARRIER.  
II AN EXAMPLE:  $V(x) = gx^{-2}$
- W. Driessler and St. J. Summers, Fachbereich Physik, Universität Osnabrück  
D-4500 Osnabrück, Fed. Rep. of Germany  
CENTRAL DECOMPOSITION OF POINCARÉ-INVARIANT NETS OF LOCAL FIELD ALGEBRAS  
AND ABSENCE OF SPONTANEOUS BREAKING OF THE LORENTZ GROUP
- S. J. L. van Eijndhoven and P. Kruszyński, Department of Mathematics and Computing  
Science, Eindhoven University of Technology, P.O.B. 513, 5600 MB Eindhoven  
The Netherlands  
SOME TRIVIAL REMARKS ON ORTHOGONALLY SCATTERED MEASURES AND RELATED  
GELFAND TRIPLES
- G. W. Ford, The University of Michigan Ann Arbor, MI 48109 USA, and J. T. Lewis,  
Dublin Institute for Advanced Studies, Dublin 4, Ireland  
QUANTUM STOCHASTIC PROCESSES
- G. W. Ford, Institut Laue-Langevin, 156X, 38042 Grenoble Cédex, France (permanent  
address see above), J. T. Lewis, School of Theoretical Physics, Dublin Inst.  
for Adv. Studies, Dublin 4, Ireland, and R. F. O'Connell, Department of  
Physics and Astronomy, Louisiana State University, Baton Rouge, Louisiana 70803  
STARK SHIFTS DUE TO BLACKBODY RADIATION
- L. Gagnon, Centre de recherche de mathématiques appliquées, Univ. de Montréal,  
Montréal, Québec, Canada H3C 3J7, J. Harnad (address see above), J. Hurtubise,  
Dép. de mathématiques, Univ. du Québec à Montréal, Montréal, Québec, Canada,  
and P. Winternitz, Centre de recherche de mathématiques appliquées, Univ. de  
Montréal, Montréal, Québec, Canada H3C 3J7  
ABELIAN INTEGRALS AND THE REDUCTION METHOD FOR AN INTEGRABLE HAMILTONIAN  
SYSTEM
- J. Ginibre, Laboratoire de Physique théorique et Hautes Energies, Univ. de  
Paris-Sud, F-91405 Orsay Cedex, France, and G. Velo, Dipartimento di Fisica,  
Università di Bologna and INFN, Sezione di Bologna, Italy  
SCATTERING THEORY IN THE ENERGY SPACE FOR A CLASS OF NONLINEAR SCHRÖDINGER  
EQUATIONS  
THE GLOBAL CAUCHY PROBLEM FOR THE NON LINEAR SCHRÖDINGER EQUATION REVISITED  
THE GLOBAL CAUCHY PROBLEM FOR THE NON LINEAR KLEIN-GORDON EQUATION



N.Gisin, Depts. of Mathematics and of Physics, Univ. of Rochester, Rochester, N.Y. 14627 (USA), present address: Dept. of Theoretical Physics, Bd.d'Ivoy 32, CH1211 Genève 4, Switzerland

THE PROPERTY LATTICE OF SPATIALLY SEPARATED QUANTUM SYSTEMS

B.Grammaticos and B.Dorizzi, Centre National d'Etudes des Télécommunications  
Dép. de Mathématiques Appliquées, F-92131 Issy les Moulineaux, France,  
A.Ramani, Centre de Physique Théorique, Ecole Polytechnique, 91128 Palaiseau  
Cedex, France, and J.Hietarinta, Wihuri Phys.Lab. and Dept. of Phys. Sciences  
University of Turku, 20500 Turku, Finland

EXTENDING INTEGRABLE HAMILTONIAN SYSTEMS FROM 2 TO N DIMENSIONS

J.Harnad, Centre de recherche de mathématiques appliquées, Univ. de Montréal and  
(from Sept. 1984) The Institute for Advanced Study, Princeton N.J. 08540 USA,  
and M.Jacques, Institut de Physique Théorique, UCL, Louvain-la-Neuve,  
Belgium

THE SUPERSYMMETRIC SOLITON CORRELATION MATRIX

J.Harnad, address see above, J.Hurtubise, Dép. de mathématiques, Univ. du Québec à  
Montréal, C.P. 8888, Succ. "A", Montreal, Canada, M.Légaré, Centre de recherche  
de mathématiques appliquées, Univ. de Montréal. Address after Sept. 1st, 1984:  
Centre for Theoretical Physics, M.I.T., Cambridge, Mass. 02139, and  
S.Snyder, Department of Mathematics, Ben Gurion University, Beer Sheva  
84105, Israel

CONSTRAINT EQUATIONS AND FIELD EQUATIONS IN SUPERSYMMETRIC N=3 YANG-MILLS  
THEORY

J.Hietarinta, Wihuri Physical Laboratory and Department of Physical Sciences,  
Univ. of Turku, 20500 Turku, Finland, B.Grammaticos and B.Dorizzi, Dép.  
des Mathématiques (MTI), Centre National d'Etudes de Télécommunications,  
F-92131 Issy-les-Moulineaux, France, and A.Ramani, Centre de Phys. Théorique,  
Ecole Polytechnique, F-91128 Palaiseau, France

COUPLING CONSTANT METAMORPHOSIS AND DUALITY BETWEEN INTEGRABLE HAMILTONIAN  
SYSTEMS

J.Hietarinta, address see above,  
QUANTUM INTEGRABILITY AND CLASSICAL INTEGRABILITY - Lecture given on  
March 21, 1984 at the Paris VI and Meudon Seminar Series "Non-linear  
Equations in Field Theory"

R.Høegh-Krohn, Matematisk Institutt Universitetet i Oslo, Blindern, Oslo,  
C.Macedo and L.Streit, Theoretische Physik Universität Bielefeld,  
D-4800 Bielefeld

LINEAR POTENTIAL MODELS

R.Hudson and Martin Lindsay, Department of Mathematics, University Park,  
Nottingham NG7 2RD, England

THE CLASSICAL LIMIT OF REDUCED QUANTUM STOCHASTIC EVOLUTIONS

A NON-COMMUTATIVE MARTINGALE REPRESENTATION THEOREM FOR NON-FOCK QUANTUM  
BROWNIAN MOTION

A.Jadczyk, Institute of Theoretical Physics, University of Wrocław,  
50-205 Wrocław, Cybulskiego 36, Poland

SYMMETRY OF EINSTEIN-YANG-MILLS SYSTEMS AND DIMENSIONAL REDUCTION

E.G.Kalnins, Mathematics Department, University of Waikato, Hamilton, New Zealand,  
and W.Miller, jr. School of Mathematics, University of Minnesota, Minneapolis,  
Minnesota 55455 USA

DIFFERENTIAL-STACKEL MATRICES

GENERALISED STACKEL MATRICES

- M.Kibler, Institut de Phys.Nucléaire (et IN2P3), Univ.Claude Bernard,  
Lyon-1, 69622 Villeurbanne Cedex,France, T.Negadi,Inst.de Phys.,  
Univ.d'Oran, Es-Sénia, Oran, Algeria, and A.Ronveaux, Dep.de Phys.,  
Facultés Universitaires Notre-Dame de la Paix, 5000 Namur, Belgium  
THE KUSTAAHEIMO-STIEFEL TRANSFORMATION AND CERTAIN SPECIAL FUNCTIONS
- E.Kyriakopoulos,National Technical University, Physics Laboratory A,  
Zografou Campus, GR 157 72 Zografou, Athens, Greece  
A METHOD OF FINDING AXIALLY SYMMETRIC VACUUM SOLUTIONS OF THE EQUATIONS  
OF GENERAL RELATIVITY
- ✓W.T.Lewis,Dublin Institute for Advanced Studies, 10 Burlington Road,  
Dublin 4, Ireland  
BROWNIAN MOTION ON A SUBMANIFOLD OF EUCLIDEAN SPACE
- ✓W.T.Lewis and J.V.Pule, Dublin Institute for Advanced Studies, 10 Burlington Road,  
Dublin 4, Ireland  
THE EQUIVALENCE OF ENSEMBLES IN STATISTICAL MECHANICS
- J.M.Lindsay, Department of Mathematics, University Park, Nottingham Ng7 2RD  
England  
ORTHO-INDEPENDENT STATES OF THE C.C.R.ALGEBRA
- Ph.A.Martin and Ch.Oguey, Ecole Polytechnique Fédérale de Lausanne,  
Institut de Physique Théorique PHB-Ecublens, CH-1015 Lausanne  
DIPOLE AND CURRENT FLUCTUATIONS IN THE QUANTUM ONE COMPONENT PLASMA  
AT EQUILIBRIUM
- J.Mickelsson, Research Institute for Theoretical Physics, University of Helsinki,  
Siltavuorenpenger 20 C, SF-00170 Helsinki, Finland  
THE VECTOR FORM OF THE NEUTRINO EQUATION AND THE PHOTON NEUTRINO DUALITY
- ✓E.E.Mueller, Laboratorium für Physikalische Chemie, ETH-Zentrum,  
CH-8092 Zürich, Switzerland, present address: Dublin Institute for Adv.  
Studies, School of Theoretical Physics, 10,Burlington Road, Dublin 4,Ireland  
NOTE ON RELATIVE ENTROPY AND THERMODYNAMICAL LIMIT
- W.Ochs, Fraunhofer-Institut INT, Appelsgarten 2, D-5350 Euskirchen FRG  
GLEASON MEASURES AND QUANTUM COMPARATIVE PROBABILITY
- H.Raszillier, Universität Bonn, Physikalisches Institut, Nussallee 12,  
D-5300 Bonn 1, W-Germany  
QUANTUM MECHANICS ON FUNDAMENTAL DOMAINS OF COXETER GROUPS
- ✓W.Rezende, Fakultät für Physik, Universität Bielefeld, D-4800 Bielefeld 1,FRG  
AN IMPROVEMENT OF A NEVANLINNA'S THEOREM WITH APPLICATION TO ASYMPTOTIC  
DEVELOPMENTS
- ✓L.Slegers, A.Vansevenant,A.Verbeure,Institut voor Theor. Natuurkunde,  
Universiteit Leuven, B-3030 Leuven, Belgium  
ON THE ABSENCE OF SPIN-FLIP SYMMETRY BREAKING IN LONG-RANGE RANDOM SYSTEMS
- M.D.Srinivas,Department of Theoretical Physics, University of Madras,  
Guindy Campus, Madras 600025  
ENTROPIC FORMULATION OF UNCERTAINTY RELATIONS FOR SUCCESSIVE MEASUREMENTS
- ✓W.R.Schneider, Brown Boveri Research Center, CH-5405 Baden,Switzerland  
RIGOROUS SCALING LAWS FOR DYSON MEASURES
- D.Schütze, Abteilung für Mathematik der Ruhr-Universität Bochum,  
Universitätsstr. 150, D-4630 Bochum  
ON UNIFYING ELECTROMAGNETISM AND GRAVITATION WITHOUT CURVATURE
- H.G.Stark, Physikalisches Institut der Universität Würzburg, Am Hubland,  
D-8700 Würzburg FRG  
POINCARÉ COVARIANT INFRAPARTICLE SECTORS

D.H.Tchrakian, Department of Math.Physics, St.Patrick's College,Maynooth,  
Kildare,Ireland and Dublin Inst.for Adv.Studies,10 Burlington Road,  
Dublin 4, Ireland  
SPHERICALLY SYMMETRIC GAUGE FIELD CONFIGURATIONS WITH FINITE ACTION  
IN  $4p$ -DIMENSIONS ( $p$ =INTEGER)

G.Wanders, Institut de Physique Théorique, Université de Lausanne/Switzerland  
THE STATE SPACE OF THE FERMION-MONOPOLE SYSTEM

E.Weber, Univ.Catholique de Louvain,Inst.de Phys.Théorique and  
Univ. du Burundi, B.P.2700 Bujumbura, Burundi  
GLOBAL QUALITATIVE STUDY OF BIANCHI UNIVERSES IN PRESENCE OF A  
COSMOLOGICAL CONSTANT



Progress Report

1. The elections of the Executive Committee and of the four officers have now been completed. The following people have been elected:

H. Araki (Kyoto)  
Ph. Blanchard (Bielefeld), Secretary  
C.A. Hurst (Adelaide) -  
J.R. Klauder (Bell Labs)  
S.T. Kuroda (Tokyo)  
J.L. Lebowitz (Rutgers)  
J.T. Lewis (Dublin), Treasurer  
J. Niederle (Prague)  
S.P. Novikov (Moscow), Vice President  
K. Osterwalder (Zürich), President  
B. Simon (Cal. Tech.)  
W. Thirring (Vienna)

2. In the name of the Association I would like to thank those who served on the Executive Committee for the past three years. Special thanks go to the former president, Elliott Lieb, for all his enthusiasm and for all the time and energy he invested in the guidance of the IAMP; to the former vice president, Walter Hunziker, in particular for introducing a very efficient address record system and to the former secretary, Ludwig Streit, in particular for putting together the news bulletins.

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Preprints and books to be announced in this Bulletin may be sent to one of the following addresses clearly marked "For IAMP NEWS BULLETIN":

Dr. John R. Klauder  
Room 1D-370  
AT&T Bell Laboratories  
Murray Hill, NJ 07974, USA

Prof. S. T. Kuroda  
Dept. Pure and Applied Sciences  
College of General Education  
Komaba, Meguro-ku  
Tokyo 153, Japan.

Prof. Dr. Ph. Blanchard  
Universität Bielefeld  
Fakultät für Physik  
D-4800 Bielefeld 1, FRG

3. W.Hunziker has made the generous offer to continue keeping track of the addresses of the members. Any change of address should be reported immediately to

Prof.Dr. W. Hunziker  
Theoretische Physik  
ETH-Hönggerberg  
CH-8093 Zürich, Switzerland

4. The bulletin will again be put together in Bielefeld by the secretary Ph. Blanchard. Thus any communication regarding the bulletin should be sent to

Prof. Dr. Ph. Blanchard  
Universität Bielefeld  
Fakultät für Physik  
D-4800 Bielefeld 1, F.R.G.

The deadlines for announcements/preprints in the IAMP Bulletins are 15. Febr., 15.May, 15.Aug., 15.Nov., respectively.

5. All matters regarding membership fees will be dealt with by the treasurer

Prof. J. Lewis  
Dublin Institute for Advanced Studies  
School of Theoretical Physics  
Dublin 4, Ireland

In particular he will grant reduced dues status to those who for some valid reason apply for it.

The regional collection centers remain the same with the exception of USA, where J. Klauder has offered to take over the responsibility. Thus if you choose to make your payments in US \$ please send your check or money order to

Prof. J. R. Klauder  
Room 1D-370  
AT&T Bell Laboratories  
Murray Hill, NJ 07974, USA

Konrad Osterwalder

Kindly note the completed JOURNAL ANNOUNCEMENT

SPRINGER-Verlag Berlin Heidelberg New York Tokyo  
The prices for 1985 for the journal COMMUNICATIONS IN MATHEMATICAL PHYSICS.  
Number of volumes: 5 (97-101); issues per volume: 4  
Institutional subscribers: Ttl.:DM 2130 (DM 426 per volume)plus carriage charges.

The following prices are valid for the members of the IAMP:  
Private subscribers outside USA: Ttl.DM 240(DM 48 p.vol.)plus carriage charges  
Private subscribers USA (IAMP orders handled by Prof.A.Jaffe):

§ 100 including carriage charges

Carriage charges: Germany: DM 35.31; foreign countries: DM 73; Japan: DM 147

PREPRINTS (RECEIVED IN MURRAY HILL)

- Michael Aizenman, Institute for Advanced Study, Princeton, NJ 08540  
ABSENCE OF AN INTERMEDIATE PHASE FOR A GENERAL CLASS OF ONE  
COMPONENT FERROMAGNETIC MODELS
- Michael Aizenman, Department of Mathematics and Physics, Rutgers University, New  
Brunswick, NJ 08903  
RIGOROUS STUDIES OF CRITICAL BEHAVIOR
- Michael Aizenman, Institute for Advanced Study, Princeton, NJ 08540  
RIGOROUS STUDIES OF CRITICAL BEHAVIOR II
- Rafael Benguria and L. Jeanneret, Depto. Fisica, FCFM, Universidad de Chile, Casilla 5487,  
Santiago, Chile  
EXISTENCE AND UNIQUENESS OF POSITIVE SOLUTIONS OF SEMILINEAR  
ELLIPTIC EQUATIONS WITH COULOMB POTENTIALS ON  $\mathbb{R}$
- Jeffrey Cooper, Dept. of Mathematics, University of Maryland, College Park, MD and  
Walter Strauss, Dept. of Mathematics, Brown University, Providence, RI  
ABSTRACT SCATTERING THEORY FOR TIME-PERIODIC SYSTEMS WITH  
APPLICATIONS TO ELECTROMAGNETISM
- Robert T. Glassey, Dept. of Mathematics, Indiana University, Bloomington, IN 47405, and  
Walter A. Strauss, Dept. of Mathematics, Brown University, Providence, RI 02912  
SINGULARITY FORMATION IN A COLLISIONLESS PLASMA COULD OCCUR  
ONLY AT HIGH VELOCITIES
- Myunghark Harn, Serin Physics Laboratory, Rutgers University, Piscataway NJ 08854 and  
Michael Aizenman, Institute for Advanced Study, Princeton, NJ 08540  
ON THE CRITICAL BEHAVIOR OF THE SURFACE TENSION IN THE  
RANDOM SURFACE MODEL
- Robert S. Maier, Dept. of Mathematics, University of Texas, Austin, TX 78712  
BOUNDS ON THE DENSITY OF STATES OF RANDOM SCHROEDINGER  
OPERATORS
- Robert Nyden Hill, University of Delaware, Newark Delaware, 19716  
RATES OF CONVERGENCE AND ERROR ESTIMATION FORMULAS FOR  
THE RAYLEIGH-RITZ VARIATIONAL METHOD
- Jalal Shatah, Courant Institute, and Walter Strauss, Brown University  
INSTABILITY OF NONLINEAR BOUND STATES

PREPRINTS (received in Princeton; in future the office collecting preprints will be: Prof. J. R. Klauder, AT&T Bell Laboratories, Murray Hill, NJ 07974)

- M. Aizenman (Dept of Math. Rutgers Univ., New Brunswick, NJ 08903 USA)  
ABSENCE OF AN INTERMEDIATE PHASE FOR A GENERAL CLASS OF ONE COMPONENT FERROMAGNETIC MODELS;  
RIGOROUS STUDIES OF CRITICAL BEHAVIOR;  
RIGOROUS STUDIES OF CRITICAL BEHAVIOR II
- M.S. Ashbaugh (Dept. of Math. Univ. of Missouri, Columbia, MO 65211 USA) and E.M. Harrell II (School of Math. Georgia Inst. of Tech., Atlanta, GA 30332-0160 USA) POTENTIALS HAVING EXTREMAL EIGENVALUES SUBJECT TO  $p$ -NORM CONSTRAINTS
- L.C. Biedenharn (Dept. of Physics, Duke Univ., Durham, NC 27706 USA) and Y. Dothan (on leave from Tel-Aviv Univ.) MONOPOLAR HARMONICS IN  $SU_f(3)$  AS EIGENSTATES OF THE SKYRME-WITTEN MODEL FOR BARYONS
- T.P. Branson (Dept. of Math. Purdue Univ., West Lafayette, IN 47907 USA)  
EVENTUAL PARTITION OF CONSERVED QUANTITIES FOR MAXWELL'S EQUATIONS;  
DIFFERENTIAL OPERATORS CANONICALLY ASSOCIATED TO A CONFORMAL STRUCTURE;  
GROUP REPRESENTATIONS ARISING FROM LORENTZ CONFORMAL GEOMETRY
- S. De Bievre and G.G. Emch (Depts. of Phys. and Math. The Univ. of Rochester, Rochester, NY 14627 USA)  
RELATIVISTIC PARTICLE SCATTERING
- S. Graffi (Dip. di Matematica, Univ. di Bologna I-40127 Bologna, Italy)  
V. Grecchi (Dip. di Matematica, Univ. di Modena, I-41100 Modena Italy)  
E.M. Harrell II (School of Math., Georgia Inst. of Tech., Atlanta, GA 30332-0160 USA) and H.J. Silverstone, Dept. of Chem. The Johns Hopkins Univ., Baltimore, MD 21218 USA) THE  $1/R$  EXPANSION FOR  $H_2^+$ : ANALYTICITY, SUMMABILITY, AND ASYMPTOTICS
- M. Harn (Serin Phys. Lab., Rutgers Univ. Piscataway, NJ 08854 USA) and M. Aizenman (Dept. of Math. Rutgers Univ. New Brunswick, NJ 08903 USA)  
ON THE CRITICAL BEHAVIOR OF THE SURFACE TENSION IN A RANDOM SURFACE MODEL
- S. Hong and G.G. Emch (Depts of Math. and Phys., The Univ. of Rochester, Rochester NY 14627 USA)  
TIME-LIKE GEODESIC FLOWS ON LORENTZ MANIFOLDS OF POSITIVE CURVATURE
- A. Jadczyk (Inst. of Theor Phys., Univ. of Wroclaw, 50-205 Wroclaw, Cybulskiego 36, Poland) SYMMETRY OF EINSTEIN-YANG-MILLS SYSTEMS AND DIMENSIONAL REDUCTION
- G.W. Johnson and M. Lapidus (Dept. of Math., Univ. of So. California, Los Angeles, CA 90089-1113 USA) FEYNMAN'S OPERATIONAL CALCULUS, GENERALIZED DYSYON SERIES AND THE FEYNMAN INTEGRAL

- M. Lapidus (Dept. of Math., Univ. of So. California, Los Angeles, CA 90089-1113 USA) PRODUCT FORMULA FOR IMAGINARY RESOLVENTS MODIFIED FEYNMAN INTEGRAL AND A GENERAL DOMINATED CONVERGENCE THEOREM
- S. Ohkuro (Dept. of Math., Hachinohe Inst. of Technology, Obiraki, Hachinohe 031 Japan) ON THE EXISTENCE OF THE ENTROPY OF POISSON DISTRIBUTION
- J.H.H. Perk (Inst. for Theor. Phys., SUNY, Stony Brook, NY 11794 USA)  
(with H. Au-Yang) ISING MODELS AND SOLITON EQUATIONS  
" " ISING CORRELATIONS AT THE CRITICAL TEMPERATURE  
(with L-F. Ko and H. Au-Yang) ENERGY-DENSITY CORRELATION FUNCTIONS IN THE TWO-DIMENSIONAL ISING MODEL WITH A LINE DEFECT  
(with H.W. Capel, G.R.W. Quispel and F.W. Nijhoff) FINITE TEMPERATURE CORRELATIONS FOR THE ISING CHAIN IN A TRANSVERSE FIELD  
(with C.L. Schultz) DIAGONALIZATION OF THE TRANSFER MATRIX OF A NONINTERSECTING STRING MODEL

PREPRINT(received in Tokyo)

- T. Sakurai, Dept. Pure and Appl. Sci., Coll. Arts and Sci., Univ. Tokyo, Komaba, Tokyo 153 Japan, Propagation of singularities of solutions to semilinear Schrödinger equations.
- Y. Tsutsumi, Dept. Pure and Appl. Sci., Coll. Arts and Sci., Univ. Tokyo, Komaba, Tokyo 153 Japan, Global existence and asymptotic behavior of solutions for nonlinear Schrödinger equations, Thesis.
- H. Grosse, Inst. für Theor. Phys. Univ. Wien, Boltzmannngasse 5, A-1090 Wien, Austria, and K. R. Ito, Dept. Math., Coll. of Liberal Arts and Sci., Kyoto Univ., Kyoto, 606 Japan, Non-existence of long-range-order in polyacetylene  $(CH)_x$ .
- K. Yajima, Inst. für Theor. Phys. Univ. Wien, Boltzmannngasse 5, A-1090 Wien, Austria, and Dept. Pure and Appl. Sci., Coll. Arts and Sci., Univ. Tokyo, Komaba, Tokyo 153 Japan, The quasi-classical limit of scattering amplitude —  $L^2$ -approach for short range potentials — .



PREPRINTS (RECEIVED IN BIELEFELD)

R.Alicki, Instituut voor Theor.Fysica, Katholieke Universiteit Leuven,  
Celestijnenlaan 200 D, B-3020 Leuven (Heverlee) Belgie, On leave  
of absence from Institute of Theor.Physics and Astrophysics,  
Gdansk University, Poland, M.Fannes and A.Verbeure, Univ.Leuven  
DETAILED BALANCE AND CRITICAL SLOWING DOWN FOR CLASSICAL LATTICE  
SYSTEMS

UNSTABLE PARTICLES AND THE POINCARÉ SEMIGROUP IN QUANTUM FIELD  
THEORY

A.Amann, Laboratory of Physical Chemistry, ETH-Zentrum, CH-8092, Zürich  
OBSERVABLES IN  $W^*$ -ALGEBRAIC QUANTUM MECHANICS

J.A.Brooke, Department of Mathematics, University of Saskatchewan,  
Saskatoon, Saskatchewan S7N 0W0 Canada and E.Prugovecki, Dep. of Mathem.,  
University of Toronto, Toronto, Ontario M5S 1A1 Canada  
RELATIVISTIC CANONICAL COMMUTATION RELATIONS AND THE GEOMETRIZATION  
OF QUANTUM MECHANICS

J.Burzlaff, T.Murphy and L.O'Raifeartaigh, School of Theoretical Physics  
Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4  
Ireland  
NON-MAXIMAL AND DISCONNECTED STABILITY GROUPS:  $SU(3)$  COUNTER-  
EXAMPLE TO MICHEL CONJECTURE

J.F.Carriena and Luis A. Ibort, Departamento de Física Teórica, Facultad de  
Ciencias, Universidad de Zaragoza, 50.009-Zaragoza (Spain)  
A GEOMETRICAL SETTING FOR LAX EQUATIONS ASSOCIATED TO DYNAMICAL  
SYSTEMS

J.F.Carriena, M.A.del Olmo and M.Santander, address see above,  
A NEW LOOK AT DIMENSIONAL ANALYSIS FROM A GROUP THEORETICAL VIEWPOINT  
LOCALLY-OPERATING REALIZATIONS OF TRANSFORMATION LIE GROUPS

S.Ciechanowicz and Z.Oziewicz, Institute of Theoretical Physics, University  
of Wrocław, 50-205 Wrocław, Cybulskiego 36, Poland  
QUARKS IN NUCLEI:  $SU(4)$  LIE ALGEBRA

R.Coquereaux, Centre de Physique Théorique, Section 2, CNRS, Luminy,  
Marseille, A. Jadczyk, CERN-Geneva, on leave from Univ. of Wrocław, Poland  
HARMONIC EXPANSION AND DIMENSIONAL REDUCTION IN G/H KALUZA-KLEIN  
THEORIES

A.Crumeyrolle, address see above, permanent address: Université Paul Sabatier  
118, route de Narbonne, F-31062 Toulouse Cedex  
PHYSICAL SYMMETRY GROUPS AND ASSOCIATED BUNDLES IN FIELD THEORY

H.L.Cycon Technische Universität Berlin, Fachbereich 3 - Mathematik,  
Straße des 17.Juni 136, D-1000 Berlin 12  
RESONANCES DEFINED BY MODIFIED DILATIONS

F.Delyon, Y-E.Lévy and B.Souillard, Centre de Physique Théorique, Ecole Poly-  
technique, F-91128 Palaiseau Cedex France  
AN APPROACH "A LA BORLAND" TO MULTI-DIMENSIONAL LOCALIZATION  
ANDERSON LOCALIZATION FOR MULTI-DIMENSIONAL SYSTEMS AT LARGE DISORDER OR  
LARGE ENERGY

- W.Driessler (present address: Sternstr. 5, D-5800 Hagen 1 FRG) and  
St.J.Summers (address after July 1, 1985: Dept. of Math., Univ.  
of Rochester, Rochester, NY 14627, USA), Fachbereich Physik,  
Universität Osnabrück, D-4500 Osnabrück (FRG)  
ON THE DECOMPOSITION OF RELATIVISTIC QUANTUM FIELD THEORIES  
INTO PURE PHASES
- Ph.Droz-Vincent, Département de Physique Mathématique, Collège de France,  
11 Place Marcelin Berthelot, F-75005 Paris France  
MODULES WITH SCALAR PRODUCT
- D.E.Evans, Mathematics Institute University of Warwick, Coventry CV4 7AL  
England, and J.T.Lewis, School of Theoretical Physics, Dublin Inst.  
for Adv.Studies, 10 Burlington Road, Dublin 4, Ireland  
ON A  $C^*$ -ALGEBRA APPROACH TO PHASE TRANSITION IN THE TWO-DIMENSIONAL  
ISING MODEL. II.
- T.Garavaglia, Institúid Ard-Leighinn Bhaile Atha Cliath Baile Atha  
Cliath 4, Eire (Ireland)  
A COMMENT ON THE DIRAC BRACKET
- S.Golin, Universität Bielefeld, Fakultät für Physik, and Forschungszentrum  
Bielefeld-Bochum-Stochastik, FRG  
UNCERTAINTY RELATIONS IN STOCHASTIC MECHANICS
- H.P.W.Gottlieb, School of Science, Griffith University, Nathan, Queensland,  
4111, Australia  
EIGENVALUES OF THE LAPLACIAN WITH NEUMANN BOUNDARY CONDITIONS
- J.M.Gracia-Bondia and J.C.Varilly, Escuela de Matemática, Universidad de Costa-  
Rica, San José, Costa Rica  
AN ALGEBRA OF DISTRIBUTIONS SUITABLE FOR PHASE-SPACE QUANTUM MECHANICS
- J.Hietarinta, Wihuri Physical Laboratory and Department of Physical Sciences  
University of Turku, SF-20500 Turku, Finland  
HOW TO CONSTRUCT INTEGRABLE FOKKER-PLANCK TYPE HAMILTONIANS FROM  
ORDINARY INTEGRABLE HAMILTONIANS
- R.L.Hudson, Mathematics Department, Nottingham University, Nottingham  
NG7 2RD England and J.M.Lindsay, School of Mathematics, Bristol Univ.  
Bristol BS 8 1TN England  
USES OF NON-FOCK QUANTUM BROWNIAN MOTION AND A QUANTUM MARTINGALE  
REPRESENTATION
- M.Iosifescu and H.Scutaru, Central Institute of Physics, Institute for  
Physics and Nuclear Engineering, Department of Theoretical Physics,  
P.O.Box MG-6, Bucharest, Romania  
POLYNOMIAL CONSTRAINTS ASSOCIATED TO DYNAMICAL SYMMETRIES  
A MOMENT MAP - LIKE MAPPING  
BOSON REALIZATION FROM QUANTUM CONSTRAINTS
- A.K.Kwasniewski, Institute of Theoretical Physics, University of Wrocław,  
ul.Cybulskiego 36, 50-205 Wrocław, Poland  
CRITICAL POINTS IN NONSTANDARD POTTS MODELS
- A.H.Klotz, Institute of Theoretical Physics, University of Wrocław,  
Cybulskiego 36, 50-205 Wrocław, Poland  
LECTURES ON GENERALIZED FIELD THEORY

- P.Kruszyński, Eindhoven University of Technology, Department of Mathematics and Computing Science, On leave from the Department of Mathematical Methods in Physics, University of Warsaw, Poland  
ALGEBRAS OF EXTENDIBLE UNBOUNDED OPERATORS
- J.T.Lewis, Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4, Ireland, talk given at the BiBoS-Symposium "Stochastic Processes - Mathematics and Physics" held at ZiF-Bielefeld, Sept. 1984  
AN ELEMENTARY APPROACH TO BROWNIAN MOTION ON MANIFOLDS
- J.M.Lindsay, School of Mathematics, University of Bristol, Bristol BS8 1TW and I.F. Wilde, Mathematics Department, King's College, London WC2R 2LS  
ON NON-FOCK BOSON STOCHASTIC INTEGRALS
- M.Lindsay, School of Mathematics, University of Bristol, University Walk, Bristol BS8 1TW  
FERMION MARTINGALES
- R.Longo, Dipartimento di Matematica, Università di Roma "La Sapienza", Piazzale A. Moro, 2 - I-00185 Roma, Italy  
A RIGIDITY THEOREM FOR INFINITE FACTORS
- M.Lorente, Departamento de Métodos Matemáticos de la Física, Facultad de Ciencias Físicas, Universidad Complutense, 28040 Madrid (Spain)  
SPACE-TIME GROUPS-FOR THE LATTICE\*
- J.Mickelsson, Research Institute for Theoretical Physics, University of Helsinki, Siltavuorenpenger 20 C, SF-00170 Helsinki 17, Finland  
BOSE-FERMI CORRESPONDENCE AND KAC-MOODY ALGEBRAS IN FOUR DIMENSIONS  
SPACE-TIME GEOMETRIC APPROACH TO ELECTROWEAK INTERACTIONS
- B.Nachtergaele, Instituut voor Theoretische Fysica, Universiteit Leuven, B-3030 Leuven Belgium  
QUANTUM ANGULAR MOMENTUM FLUCTUATIONS
- Z.Oziewicz, Institute for Theoretical Physics, University of Wrocław, Cybulskiego 36, 50-205 Wrocław, Poland  
SPIN DENSITY OPERATOR FOR THE INTERACTING TWO SPINS SYSTEMS
- H.Spohn and R.Dümcke, Ludwig-Maximilians-Universität München, Theor.Phys., Theresienstr. 37, D-8000 München 2 (FRG)  
QUANTUM TUNNELING WITH DISSIPATION AND THE ISING MODEL OVER  $\mathbb{R}$ .
- O.Steinmann, Fakultät für Physik, Universität Bielefeld, D-4800 Bielefeld 1  
GAUGE INVARIANT FIELDS IN NONABELIAN GAUGE THEORIES
- A.Truman, Department of Mathematics, University College of Swansea, Singleton Park, Swansea SA2 8PP Wales and J.T.Lewis, Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4, Ireland  
Talk given by A.Truman at the BiBoS-Symposium "Stochastic Processes - Mathematics and Physics" held at ZiF-Bielefeld, Sept.1984  
THE STOCHASTIC MECHANICS OF THE GROUND-STATE OF THE HYDROGEN ATOM
- A.Wipf, School of Theoretical Physics, Dublin Institute for Adv.Stud., 10 Burlington Road, Dublin 4, Ireland  
UPPER AND LOWER BOUNDS FOR THE BOUNCE ACTION



THE OPEN UNIVERSITY

The Open University  
Walton Hall  
Milton Keynes  
MK7 6AA , U.K.

Telephone: Milton Keynes (0908) 653580 (Direct Line)  
Milton Keynes (0908) 74066 (Switchboard)

FACULTY OF MATHEMATICS

GEOMETRY AND PHYSICS II

A one-day conference to be held in  
the Church, Open University, Milton Keynes,  
on Friday 10 May 1985 from 10.00 a.m.  
No registration Fee. For further  
details, contact A. I. Solomon, Faculty of  
Mathematics, Open University, Milton Keynes  
Tel: 0908 653580.

Dr A I Solomon Member 431

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

GRUPO INTERUNIVERSITARIO  
DE FÍSICA TEÓRICA  
DE ALTAS ENERGÍAS

ESPAÑA

XVI INTERNATIONAL SEMINAR ON THEORETICAL PHYSICS

NEW PERSPECTIVES  
IN QUANTUM  
FIELD THEORIES

Jaca (Huesca), June 3-8, 1985

The XVth Session of the GIFT International Seminar on Theoretical Physics will be held at Jaca (Huesca) during the second week of next June. The Organizing Committee is composed by J. Abad, J. L. Alonso and M. Asorey (Departamento de Física Teórica, Facultad de Ciencias, Universidad de Zaragoza, 50009 Zaragoza, SPAIN).

THE FOLLOWING SERIES OF LECTURES ARE PROGRAMMED:

- B. BERG (Hamburg University, F. R. Germany)  
«Numerical Simulation of Quantum Field Theory»
- P. GINSPARG (Harvard University, U.S.A.)  
«Anomalies in Quantum Field Theory»
- G. 't HOOFT (Utrecht University, the Netherlands)  
«Quantum Structure of Black Holes»
- C. ITZYKSON (CEN, Saclay, France)  
«Field Theory on a Random Lattice and Related Topics»
- P. K. MITTER (Université de Paris VI, France)  
«Stochastic Methods in Quantum Field Theory»
- R. STORA (LAPP, Annecy, France)  
«Structure of Chiral Anomalies»

English will be the working language. Each lecturer will deliver about four one-hour seminars. Additional seminars will be delivered by I. Halliday (Imperial College) and C. P. Korthals-Altes (C.N.R.S. Marseille). The level is intended to be that of advanced graduate students or recent Ph.D.'s.

Applications including name, age, Institution and a brief curriculum should reach Julio Abad (see his postal address above) before March 31. An answer will be forwarded to all applicants before April 30.

All sessions of the Seminar will take place at the University Residence where the participants will be lodged. The Seminar fee will be about US \$ 110, and includes full board. Regretfully, no financial help is available.

Jaca is a small town in a valley in the Aragonese Pyrenees, near its high summits. The town was the first capital city of the Kingdom of Aragon, and as remnants of its former splendour it keeps the Romanesque Cathedral, with a museum of Paintings. The city is about 160 Km. from Zaragoza. An excursion will be organized to local places of interest, during the Seminar.

This 1985 edition of the GIFT Seminar is sponsored by Comisión Asesora de Investigación Científica y Técnica, Instituto de Estudios Nucleares, Consejo Superior de Investigaciones Científicas, Universidad de Zaragoza, Diputación Provincial de Zaragoza and Ayuntamiento de Jaca.



Division of Mathematical Sciences  
Department of Computer Science  
Department of Mathematics  
Department of Statistics and Actuarial Science  
Program in Applied Mathematical Sciences

February 19, 1985

Please excuse the informal nature of this communication. I want to get information to you about the June conference on operator algebras and mathematical physics here at the University of Iowa. The enclosed announcement should supply you with a minimum of facts about the conference.

As you may know, we tried to get funding from various agencies. We were only partly successful, but we have NSF funding supplemented with some local monies. This means that we will only be able to support participants at a lower level than we had planned. We are also restricted by NSF policies and guidelines of course. We hope to be able to pay a stipend to all participants.

But we must encourage people with grants to use them in connection with the conference.

The non-American participants (or rather participants with non-USA travel origin) are encouraged to apply to their respective research councils for travel. We regret to have to ask you to make use of outside funding sources.

We really hope you can come. We will be happy to write special letters in case it can help you secure travel money from your institution.

Our phone numbers are:

P. Jorgensen 319-351-4373

P. Muhly 319-351-6025

Department of Mathematics  
University of Iowa  
Iowa City, IA 52242.

*Palle Jorgensen*

More communication will follow.

CONFERENCE ANNOUNCEMENT

"Operator algebras and Mathematical Physics".

Monday, June 17 - Friday June 21, 1985.

Location: University of Iowa, Iowa City.

Limited support has been obtained from the National Science Foundation.

A preliminary list of participants includes:

H. Araki	R.V. Kadison
H. J. Borchers	D. Kastler
O. Bratteli	G.K. Pedersen
A. Connes	D.W. Robinson
N.M. Hugenholtz	E. Størmer
V.F.R. Jones	M. Takesaki

TOPICS

\*Some aspects of the algebraic approach to statistical mechanics.

\*Non-commutative differential geometry.

\*Group actions and dynamical systems.

ORGANIZERS

P.E.T. Jorgensen

P.S. Muhly

R.H. Gelnke

Department of Mathematics  
University of Iowa  
Iowa City, IA 52242

FIRST ANNOUNCEMENT

I Ascona - Como Meeting  
International Conference  
on

STOCHASTIC PROCESSES IN CLASSICAL AND QUANTUM SYSTEMS

Ascona, June 24-29, 1985

Topics: Stochastic processes and:

1. Stochastic mechanics / quantum theory
2. Statistical mechanics / classical dynamical systems
3. Classical / quantum chaotic systems  
(theoretical and numerical studies)

Scientific Committee

S. Albeverio (Bielefeld/Bochum), G. Casati (Como/Milano),  
D. Merlini (Bellinzona/Como).

In the preliminary list of speakers are included:

L. Accardi (Roma), J. Bellissard (Marseille), M. Berry (Bristol),  
Ph. Blanchard (Bielefeld), E. Carlen (Cambridge), S.D.S. Chatterji (Lausanne),  
G.F. Dell'Antonio (Napoli), D. Dürr (Bielefeld), J.P. Eckmann (Geneve),  
H. Föllmer (Zürich), L. Galgani (Milano), G. Gallavotti (Roma), V. Gorini  
(Milano), F. Guerra (Roma), G. Jona-Lasinio (Roma), R. Høegh-Krohn  
(Marseille/Oslo), C. Marchioro (Trento), F. Martinelli (Roma), P.A. Meyer  
(Strasbourg), E. Nelson (Princeton), M. Pulvirenti (Roma), W. Schneider  
(Baden), L. Streit (Bielefeld), E. Trubowitz (Zürich), E. Zehnder (Bochum).

There will be review talks as well as seminars. Short communications will also be organized. The Conference will be held in Locarno-Ascona, a city in Ticino (Switzerland), near the Italian border. The participation fee is \$ 30. It includes a social program and a copy of the proceedings. The participants interested are invited to apply before April 15, 1985.

Correspondence should be sent to:

Dr. D. Merlini (ICSP)  
Villa Olmo  
Centro di Cultura Scientifica  
Alessandro Volta  
GOMO  
Italia



FIRST ANNOUNCEMENT

The University of Groningen organizes an international conference on

STATISTICAL MECHANICS AND FIELD THEORY, MATHEMATICAL ASPECTS

to be held in Groningen, August 26-30, 1985.

TOPICS:

- Random Systems
- Phase Transitions
- Continuum Limit
- Renormalization Group
- Applications of Operator Algebras
- K-theory

SCIENTIFIC ADVISORY COMMITTEE:

- H. Araki
- J. Fröhlich
- R. Haag
- N.M. Hugenholtz
- J.L. Lebowitz

LOCAL ORGANIZING COMMITTEE:

T. Dorlas, N.M. Hugenholtz, M. Winnink

FOR MORE INFORMATION WRITE TO:

The Institute for Theoretical Physics  
University of Groningen  
P.O. Box 800  
9700 AV Groningen  
Netherlands



Seoul National University  
Department of Physics  
Seoul 151, Korea

Dec. 18, 1984

The Korean Physical Society will host the 14th International Colloquium on Group Theoretical Methods in Physics (ICGTMP) in Seoul during 26-30 August next year, which is sponsored by the International Union of Pure and Applied Physics (IUPAP).

The Conference is organized into four divisions: A) Mathematical and General, B) Low Energy Physics, C) Statistical Mechanics and Non-linear Dynamics, and D) Particle Physics and Relativity. For each division there will be one Colloquium, three Parallel Sessions, and two or three Poster Sessions. The Colloquium talks are for up-to-dated reviews, the Parallel Session talks are for presenting new results, and the Poster Sessions are for expert-to-expert communications and exchange of preprints. The expected number of the audience is about 350, which was the number of the audience at the last Maryland meeting.

The enclosed form is to help us organizing the Seoul Conference.

THE XIV INTERNATIONAL COLLOQUIUM ON GROUP THEORETICAL METHODS IN PHYSICS  
(Sponsored by IUPAP)

Seoul, Korea

26-30 August, 1985

Preliminary Registration Questionnaire

1) Name : \_\_\_\_\_  
(First) (Last)

2) Mailing address : \_\_\_\_\_  
\_\_\_\_\_

Telephone \_\_\_\_\_ Telex \_\_\_\_\_

3) I wish to participate in the 14th Seoul ICGTMP : Yes \_\_\_\_\_.  
4) I am interested in making the following scientific contribution(s):

- a) Colloquium talk (60-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- b) Parallel Session talk (30-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- c) Poster \_\_\_\_\_ Division \_\_\_\_\_

The most probable title of my talk is \_\_\_\_\_

- Division : A) Mathematical and General  
B) Low Energy (Atomic, Condensed Matter, and Nuclear) Physics  
C) Non-Linear Dynamics and Critical Phenomena  
D) Particle Physics and Relativity

5) There is a limited fund for travel expenses. Do you wish to apply for it? Yes \_\_\_\_\_, No \_\_\_\_\_.

6) Please return this form as soon as possible (before the end of January, if you could) to :

Y.M. Cho  
Dept. of Physics  
Seoul National University  
Seoul 151, Korea

Date \_\_\_\_\_ Signature \_\_\_\_\_

NATO Advanced Research Workshop

FUNDAMENTAL ASPECTS OF QUANTUM THEORY

Centro di Cultura Scientifica "Alessandro Volta"  
Villa Olmo, Como, Italy

from September 2 to September 7, 1985

Co-sponsored by the Physics Department of the University of Milan and  
by the International Association of Mathematical Physics.

Dedicated to the memory of Professor Piero Caldirola.

Scientific Advisory Committee:

H. Araki (Kyoto, Japan), J.T. Lewis (Dublin, Ireland),  
G. Ludwig (Marburg, FRG), E.H. Lieb (Princeton, N.J., U.S.A.),  
R.F. Streater (London, U.K.), W. Thirring (Vienna, Austria),  
J.A. Wheeler (Austin, Texas, U.S.A.),  
A.S. Wightman (Princeton, N.J., U.S.A.),  
E.P. Wigner (Baton Rouge, Louisiana, U.S.A.).

CONTENTS:

General problems and crucial experiments.  
Quantization problems (functional integration, stochastic processes).  
Spectral properties of Schrödinger operators and chaotic behaviour in  
quantum mechanics.  
Microscopic and macroscopic levels of description: new techniques and  
results.  
General aspects of gauge theories.  
Gravity in quantum mechanics (quantum gravity, quantum statistical  
mechanics of gravitating objects).

Local Organizing Committee:

G. Casati, R. Cirelli, A. Frigerio, V. Gorini, L. Lanz, A. Loinger,  
G.M. Proserpi;

Dipartimento di Fisica, Università di Milano, Via Celoria 16, I-20133  
Milano, Italy.  
Telex 334687 INFN MI.

For information contact A. Frigerio and V. Gorini  
at the address above (Phone Nos. (2)2392237, (2)2392244)

# FIRST ANNOUNCEMENT

The Universities of Heidelberg, Leuven and Rome and the Dublin Institute for Advanced Studies organize under the sponsorship of the E.E.C. an  
Advanced Study and Research Institute on

## QUANTUM PROBABILITY AND APPLICATIONS

to be held at the University of Leuven, Belgium  
from September 9 to September 27 1985

A series of introductory lectures will be delivered on each of the following topics: Introduction to quantum probability, and to quantum stochastic processes; operator algebras in physics ; models in statistical mechanics and the moment method; analytic aspects of semigroups; quantum probability in physics and quantum stochastic differential equations.

In addition short advanced courses of a more specialized nature will be given. There will be ample time for discussion, organizing seminars and for other research activities by participants.

Among the lecturers one has : L. Accardi, G. Casati , D. Evans, M. Fannes, A. Frigerio, H. Grabert, R. Hudson, J. Lewis, G. Lindblad, K.R. Parthasarathy, J. Quaegebeur, A. Verbeure, W. von Waldenfels.

The course is open to everybody interested and is primarily intended to be of postgraduate level. Limited funds for travel and living expenses are available. Applications for these funds must be made before March 1, 1985.

The organizing committee

L. Accardi            J.T. Lewis            A. Verbeure            W. von Waldenfels

Correspondence should be sent to:

Dr. M. Fannes; Universiteit Leuven, Celestijnenlaan 200 D, B-3030 Leuven (Belgium).

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.Ostervolder (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 go to the following address: L.Streit, Universität Bielefeld, Fakultät für Physik, D-4800 Bielefeld 1.

Adresse postale : Congrès IAMP 1986 CPT-CNRS Luminy - Case 907-F 13288 Marseille Cedex 9, France  
☎ (91) 41.01.30 - Télex : CNRSLUM 430 838 F

INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS



IAMP NEWS BULLETIN

June 1985

Progress-Report

The executive committee has decided to support the following conferences with financial contribution to \$ 500.--:

- Statistical Mechanics and Field Theory, Mathematical Aspects to be held in Groningen/The Netherlands from August 26 to August 30, 1985, organized by Prof. N.M. Hugenholtz and M. Winnink
- Statistical Mechanics of Phase Transitions: Mathematical and Physical Aspects, to be held in Třebon/CSSR in September 1986, organized by Prof. R. Kotecky and M. Zahradnik.

K. Osterwalder

We draw your attention once more to the fact that books or preprints to be announced in this bulletin have to be sent to one of the following addresses clearly marked "FOR IAMP NEWS BULLETIN":

Dr. John R. Klauder  
Room 1D - 370  
AT&T Bell Laboratories  
Murray Hill, NJ 07974, USA

Prof. S.T.Kuroda  
Dept. Pure and Applied Sciences  
College of General Education  
University of Tokyo  
Komaba, Meguro-ku  
Tokyo 153, Japan

Prof. Dr. Ph. Blanchard  
Universität Bielefeld  
Fakultät für Physik  
D-4800 Bielefeld 1, FRG

# INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS

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 D-4810 Bielefeld 1, GERMANY BR1

**Treasurer**

Prof. K. OSTERWALDER  
 Mathematisches Seminar  
 ETH - Zentrum  
 CH-8092 Zurich, SWITZERLAND

## Financial Report 1984

(Jan. 1, 1984 - Dec. 31, 1984)

1) Geneva Account (SFr.)

<u>Income</u>	Carried forward from 1983	SFr. 10'616.87
	Dues received 1984	<u>SFr. 3'775.50</u>
		SFr. 14'392.37
	Interest	<u>SFr. 13.25</u>
<b>Total Income</b>		SFr. 14'405.62
<u>Expenditure</u>	Postage	SFr. 493.25
Balance	per 01.01.85	<u>SFr. 13'912.37</u>

2) Princeton Account (US \$)

<u>Income</u>	Carried forward from 1983	\$ 7'655.12
	Dues received 1984	\$ 1'879.--
	Interest on bank acct. (Nassau Savings)	\$ 96.04
	Interest on Merrill Lynch Ready Assets Trust	<u>\$ 668.58</u>
<b>Total</b>		<u>\$ 2'643.62</u>
<b>Total Income</b>		\$ 10'298.74
<u>Expenditures</u>	Postage (mailing bulletin)	\$ 297.86
	Printing Bulletin	\$ 445.--
	Support Kőszeg Meeting	<u>\$ 500.--</u>
<b>Total Expenditures</b>		<u>./.</u> \$ 1'242.86
Balance per 01.01.85		\$ 9'055.88



<u>Holdings</u>	Nassau Savings and Loan Ass.	\$ 1'529.82
	Merrill Lynch Pierce Fenner and Smith, Ready Assets Account	\$ <u>7'526.06</u>
	Total Assets Dec. 1984	\$ 9'055.88
		=====

3) Sparkasse Bielefeld (DM)

<u>Income</u>	Carried forward from 1983		DM 10'874.36
	Dues received 1984	DM 1'892.18	
	Interest	<u>DM 64.89</u>	
	Total		<u>DM 1'957.07</u>
Total Income			DM 12'831.43
<u>Expenditure</u>	Bank fees	./.	<u>DM 79.76</u>
Balance per 01.01.85			DM 12'751.67
			=====

4) Tokyo Account (Y)

<u>Income</u>	Carried forward from 1983		Y 415'429.--
	Dues received 1984	Y 17'500.--	
	Interest	<u>Y 5'176.--</u>	
	Total		<u>Y 22'676.--</u>
<u>Expenditures</u>	Printing and Mailing Bulletins	Y 27'986.--	Y 438'105.--
	Other Postages	Y 950.--	
	Others	<u>Y 970.--</u>	
	Total	./.	<u>Y 29'906.--</u>
Balance per 01.01.85			Y 408'199.--
			=====

5) Warszawa Account (Zl.)

<u>Income</u>	Carried forward from 1983	Zl. 24'000.--
	Dues received 1984 ./.	<u>Zl. 5'811.--</u>
Balance per 01.01.85		Zl. 29'811.--
		=====

XVème ECOLE D'ETE DE CALCUL DES PROBABILITES

---

SAINT-FLOUR (CANTAL)

2 - 19 Juillet 1985

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CONFERENCIERS INVITES

- Pierre CARTIER, Directeur de Recherche au C.N.R.S.  
Centre de Mathématiques de l'Ecole Polytechnique  
*"Méthodes d'analyse non standard en Probabilités"*
  
- Persi DIACONIS, Professeur à l'Université de Stanford, Californie (USA)  
*"Use of Group Representations in Probability and Statistics"*
  
- Srinivasa VARADHAN, Professeur, Courant Institute of Mathematical  
Sciences, Université de New-York (USA)  
*"Large Deviations and Applications"*

RENSEIGNEMENTS ET INSCRIPTIONS

P.L. HENNEQUIN  
B.P. n° 45  
F63170 AUBIERE

The 6<sup>th</sup> Course of the E. Majorana International School of Mathematical Physics will be held in Erice, Trapani, Italy, July 1 - 14, 1985 on the subject FUNDAMENTAL PROBLEMS OF GAUGE FIELD THEORY, organized by G. Velo and A.S. Wightman. The lecturers will be : L. Alvarez-Gaumé, T. Balaban, K. Fredenhagen, J. Fröhlich (tentative), A. Jaffe, A. Neveu, D. Olive, F. Strocchi, D. Zwanziger.

Subjects will include general lattice gauge theory, particle structure in gauge theories, stochastic quantization, infrared problem, solitons and Kac-Moody algebras, string theory, anomalies and chiral symmetry breaking. A poster containing additional information is in preparation and will be soon available.

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FIRST ANNOUNCEMENT

The University of Groningen organizes an international conference on

STATISTICAL MECHANICS AND FIELD THEORY, MATHEMATICAL ASPECTS

to be held in Groningen, August 26-30, 1985.

TOPICS:

- Random Systems
- Phase Transitions
- Continuum Limit
- Renormalization Group
- Applications of Operator Algebras
- K-theory

SCIENTIFIC ADVISORY COMMITTEE:

- H. Araki
- J. Fröhlich
- R. Haag
- N.M. Hugenholtz
- J.L. Lebowitz

LOCAL ORGANIZING COMMITTEE:

T. Dorlas, N.M. Hugenholtz, M. Winnink

FOR MORE INFORMATION WRITE TO:

The Institute for Theoretical Physics  
University of Groningen  
P.O. Box 800  
9700 AV Groningen  
Netherlands



Seoul National University  
Department of Physics  
Seoul 151, Korea

Dec. 18, 1984

The Korean Physical Society will host the 14th International Colloquium on Group Theoretical Methods in Physics (ICGTMP) in Seoul during 26-30 August next year, which is sponsored by the International Union of Pure and Applied Physics (IUPAP).

The Conference is organized into four divisions: A) Mathematical and General, B) Low Energy Physics, C) Statistical Mechanics and Non-linear Dynamics, and D) Particle Physics and Relativity. For each division there will be one Colloquium, three Parallel Sessions, and two or three Poster Sessions. The Colloquium talks are for up-to-dated reviews, the Parallel Session talks are for presenting new results, and the Poster Sessions are for expert-to-expert communications and exchange of preprints. The expected number of the audience is about 350, which was the number of the audience at the last Maryland meeting.

The enclosed form is to help us organizing the Seoul Conference.

THE XIV INTERNATIONAL COLLOQUIUM ON GROUP THEORETICAL METHODS IN PHYSICS  
(Sponsored by IUPAP)

Seoul, Korea

26-30 August, 1985

Preliminary Registration Questionnaire

1) Name : \_\_\_\_\_  
(First) \_\_\_\_\_ (Last)

2) Mailing address : \_\_\_\_\_  
\_\_\_\_\_

Telephone \_\_\_\_\_ Telex \_\_\_\_\_

3) I wish to participate in the 14th Seoul ICGTMP : Yes \_\_\_\_\_

4) I am interested in making the following scientific contribution(s):

- a) Colloquium talk (60-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- b) Parallel Session talk (30-minutes) \_\_\_\_\_ Division \_\_\_\_\_
- c) Poster \_\_\_\_\_ Division \_\_\_\_\_

The most probable title of my talk is \_\_\_\_\_

- Division :
- A) Mathematical and General
  - B) Low Energy (Atomic, Condensed Matter, and Nuclear) Physics
  - C) Non-Linear Dynamics and Critical Phenomena
  - D) Particle Physics and Relativity

5) There is a limited fund for travel expenses. Do you wish to apply for it? Yes \_\_\_\_\_, No \_\_\_\_\_.

6) Please return this form as soon as possible (before the end of January, if you could) to :

Y.M. Cho  
Dept. of Physics  
Seoul National University  
Seoul 151, Korea

Date \_\_\_\_\_ Signature \_\_\_\_\_

NATO Advanced Research Workshop

FUNDAMENTAL ASPECTS OF QUANTUM THEORY

Centro di Cultura Scientifica "Alessandro Volta"  
Villa Olmo, Como, Italy

from September 2 to September 7, 1985

Co-sponsored by the Physics Department of the University of Milan and  
by the International Association of Mathematical Physics.

Dedicated to the memory of Professor Piero Caldirola.

Scientific Advisory Committee:

H. Araki (Kyoto, Japan), J.T. Lewis (Dublin, Ireland),  
G. Ludwig (Marburg, FRG), E.H. Lieb (Princeton, N.J., U.S.A.),  
R.F. Streater (London, U.K.), W. Thirring (Vienna, Austria),  
J.A. Wheeler (Austin, Texas, U.S.A.),  
A.S. Wightman (Princeton, N.J., U.S.A.),  
E.P. Wigner (Baton Rouge, Louisiana, U.S.A.).

CONTENTS:

General problems and crucial experiments.  
Quantization problems (functional integration, stochastic processes).  
Spectral properties of Schrödinger operators and chaotic behaviour in  
quantum mechanics.  
Microscopic and macroscopic levels of description: new techniques and  
results.  
General aspects of gauge theories.  
Gravity in quantum mechanics (quantum gravity, quantum statistical  
mechanics of gravitating objects).

Local Organizing Committee:

G. Casati, R. Cirelli, A. Frigerio, V. Gorini, L. Lanz, A. Loinger,  
G.M. Proserpi;

Dipartimento di Fisica, Università di Milano, Via Celoria 16, I-20133  
Milano, Italy.  
Telex 334687 INFN MI.

For information contact A. Frigerio and V. Gorini  
at the address above (Phone Nos. (2)2392237, (2)2392244)

F I R S T A N N O U N C E M E N T

The Universities of Heidelberg, Leuven and Rome and the Dublin Institute for Advanced Studies organize under the sponsorship of the E.E.C. an Advanced Study and Research Institute on

## QUANTUM PROBABILITY AND APPLICATIONS

to be held at the University of Leuven, Belgium  
from September 9 to September 27 1985

A series of introductory lectures will be delivered on each of the following topics: Introduction to quantum probability, and to quantum stochastic processes; operator algebras in physics ; models in statistical mechanics and the moment method; analytic aspects of semigroups; quantum probability in physics and quantum stochastic differential equations.

In addition short advanced courses of a more specialized nature will be given. There will be ample time for discussion, organizing seminars and for other research activities by participants.

Among the lecturers one has : L. Accardi, G. Casati , D. Evans, M. Fannes, A. Frigerio, H. Grabert, R. Hudson, J. Lewis, G. Lindblad, K.R. Parthasarathy, J. Quaegebeur, A. Verbeure, W. von Waldenfels.

The course is open to everybody interested and is primarily intended to be of postgraduate level. Limited funds for travel and living expenses are available. Applications for these funds must be made before March 1, 1985.

The organizing committee

L. Accardi            J.T. Lewis            A. Verbeure            W. von Waldenfels

Correspondence should be sent to:

Dr. M. Fannes; Universiteit Leuven, Celestijnenlaan 200 D, B-3030 Leuven (Belgium).



KOVALEVSKAIA SYMPOSIUM

October 27 and 28, 1985, Harvard University, Cambridge, Massachusetts

A symposium in honor of Sonia Kovalevskaja will be held at Harvard University, Cambridge, Massachusetts on Sunday evening, October 27 and Monday, October 28, immediately following the Amherst meeting of the American Mathematical Society. The symposium has been organized by the Association for Women in Mathematics in cooperation with the Mary Ingraham Bunting Institute of Radcliffe College. The academic year 1985-86 marks the fifteenth anniversary of the Association for Women in Mathematics and the twenty-fifth anniversary of the Bunting Institute. This dual occasion provides an apt framework in which to celebrate the mathematical accomplishments of Sonia Kovalevskaja, the first woman to receive a doctorate in mathematics, and to present the work of mathematicians who are today working in related fields.

Sonia Kovalevskaja did some of her most important work, in analysis, applied mathematics, and mathematical physics just about a century ago. There has been a recent resurgence of interest in her approaches and her results. This symposium will be the first occasion in recent years of bringing together mathematicians to honor her legacy. The lectures will cover a broad selection of topics related to Kovalevskaja's work. These include the following: reaction diffusion equations, theory of vibrations, Hamiltonian systems, dynamical systems and turbulence, Backlund transformations, singularities in Yang-Mills fields, topological entropy, theory of solitons, minimal immersions and submanifolds, geometric measure theory, geometric invariant theory and boundary problems. The speakers will be among the following:

Mark Adler	Brandeis University
Patricia Bauman	Purdue University
Nancy Hingston	University of Pennsylvania
Ann Hibner Koblitz	Moscow State University (visiting)
Nancy Kopell	Northeastern University
Linda Ness	Carleton College
Michael Shub	Queens College (CUNY)
Jean Taylor	Rutgers University
Chuu Lian Terng	Northeastern University
Karen Uhlenbeck	University of Chicago.

The symposium will begin on Sunday evening, October 27 in <sup>Cronkhite</sup>~~Krankheit~~ Hall, Harvard University, with registration from 5 to 7p.m. and dinner at 7p.m., followed by the opening lecture. The program will continue through Monday, October 28. Note that three of the Special Sessions at the AMS Amherst meeting (October 26 and 27) will be coordinated with the Kovalevskaja Symposium. They are:

An introduction to quasi-crystals, Jean Taylor, Rutgers University  
Non-linear problems arising in physics and geometry, Lesley M. Sibner, Polytechnic Institute of New York

Sonia Kovalevskaja; major currents in 19th century mathematics, Jane Cronin Scanlon, Rutgers University.

(continued)

KOVALEVSKAIA SYMPOSIUM (continued)

The Organizing Committee for the Kovalevskaja Symposium consists of:

Linda Keen*	Herbert H. Lehman College (CUNY)
Linda Rothschild*	University of California/San Diego
Bernice Auslander	University of Massachusetts/Boston
Pamela Coxson	Mary Ingraham Bunting Institute, Radcliffe College, Harvard University
Michele Vergne	Massachusetts Institute of Technology.

\*Cochairpersons

Registration fees are:      \$3 for AWM members  
                                      \$5 for non-members  
                                      \$1 for students or unemployed.

A block of rooms has been reserved for participants in the symposium at the Quality Inn, 1651 Massachusetts Avenue, Cambridge, Massachusetts 02138. Reduced prices of \$60 for single rooms and \$71 for double rooms are available if booked before September 27. Early booking is advised, and the Kovalevskaja Symposium must be mentioned in making reservations. The telephone numbers are 1-800-321-2828 and (617)-491-1000. Additional information about other accommodations (including bed-and-breakfast) will be sent upon request. Reservations for dinner on Sunday, October 27 must be made before October 13. The form below should be sent to Margaret Monroe, Association for Women in Mathematics, Box 178, Wellesley College, Wellesley, MA 02181.

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I wish to attend the Kovalevskaja Symposium. My check, payable to AWM, is enclosed.

_____	Registration fee
_____	Dinner, Sunday, October 27, 7p.m. (\$17.50)
_____	Please enroll me as a member of AWM (\$10)
_____	TOTAL

Name \_\_\_\_\_ Address \_\_\_\_\_  
 Telephone \_\_\_\_\_

\_\_\_\_\_ Please send me additional information about accommodations.

\_\_\_\_\_ I will need transportation from Amherst to Cambridge on Sunday, Oct.27.

---

*PREPRINTS (RECEIVED IN MURRAY HILL)*

- Tom Kennedy, Department of Physics, Princeton University, Princeton, NJ 08544  
LONG RANGE ORDER IN THE ANISOTROPIC QUANTUM FERROMAGNETIC  
HEISENBERG MODEL
- K. Gadwedzki, A. Kupiainen, Lyman Laboratory of Physics, Harvard University, Cambridge,  
MA 02138  
ASYMPTOTIC FREEDOM BEYOND PERTURBATION THEORY
- Tadeusz Balaban, Lyman Laboratory of Physics, Harvard University, Cambridge, MA 02138  
ULTRAVIOLET STABILITY OF THREE-DIMENSIONAL LATTICE PURE GAUGE  
FIELD THEORIES
- John Z. Imbrie, Lyman Laboratory of Physics, Harvard University, Cambridge, MA 02138  
THE ISING MODEL IN A RANDOM FIELD: LONG-RANGE ORDER IN THREE  
DIMENSIONS
- Pierre-A. Vuillermot, Mathematics Department, The University of Texas, Arlington, TX 76019  
USA  
ELLIPTIC REGULARIZATION FOR A CLASS OF STRONGLY NONLINEAR  
DEGENERATE EIGENVALUE PROBLEMS ON ORLICZ-SOBOLEV SPACES. I: THE  
ODE CASE
- Paul Federbush, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109  
USA and Tom Kennedy, Department of Physics, Princeton University, Princeton, NJ  
08544 USA  
SURFACE EFFECTS IN DEBYE SCREENING
- Carl M. Bender, Kimball A. Milton, David H. Sharp, L. M. Simmons, Jr. and Richard Strong,  
Los Alamos National Laboratory, Los Alamos, NM 87545 USA  
DISCRETE TIME QUANTUM MECHANICS
- J. Dimock, Department of Mathematics, SUNY at Buffalo, Buffalo, NY 14214 USA and Bernard  
S. Kay, Institut fur Theoretische Physik, Universitaet Zurich, CH-8001 Zurich,  
Switzerland  
SCATTERING FOR SCALAR FIELDS ON COULOMB POTENTIALS AND  
SCHWARZSCHILD METRICS
- J. Dimock, Department of Mathematics, SUNY at Buffalo, Buffalo, NY 14214 USA and Bernard  
S. Kay, Institut fur Theoretische Physik, Universitaet Zurich, CH-8001 Zurich,  
Switzerland  
SCATTERING FOR SCALAR QUANTUM FIELDS ON BLACK HOLE METRICS II.
- J. T. Chayes and L. Chayes, Department of Mathematics and Physics, Harvard University,  
Cambridge, MA 02138 USA  
RANDOM TUBES AS A MODEL OF PAIR CORRELATIONS
- J. T. Chayes, L. Chayes, Department of Mathematics and Physics, Harvard University,  
Cambridge, MA 02138 USA and J. Frohlich, The Institute for Advanced Study,  
Princeton, NJ 08540 USA  
THE LOW-TEMPERATURE BEHAVIOR OF DISORDERED MAGNETS
- John R. Klauder, AT&T Bell Laboratories, Murray Hill, NJ 07974  
MEASURE AND SUPPORT IN FUNCTIONAL INTEGRATION

- Ingrid Daubechies, Theoretische Natuurkunde, Vrije Universiteit Brussel, B-1050 Brussels - Belgium and John R. Klauder, AT&T Bell Laboratories, Murray Hill, NJ 07974  
QUANTUM MECHANICAL PATH INTEGRALS WITH WIENER MEASURES FOR ALL POLYNOMIAL HAMILTONIANS. II.
- John R. Klauder and Wesley P. Petersen, AT&T Bell Laboratories, Murray Hill, NJ 07974  
SPECTRUM OF CERTAIN NONSELF-ADJOINT OPERATORS AND SOLUTIONS OF LANGEVIN EQUATIONS WITH COMPLEX DRIFT
- B. L. Willis and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061 USA, and C. V. M. van der Mee, Department of Mathematics, Texas Tech University, Lubbock, Texas 79409 USA  
WHITHER EXISTENCE THEORY?
- Paul F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061 USA  
THIS IS POSSIBLY AN INTERESTING ARTICLE
- B. L. Willis and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061 USA  
NORMAL AND ANTINORMAL ORDERING OF BOSON OPERATOR FUNCTIONS
- C.V.M. vand der Mee, Department of Mathematics, Texas Tech University, Lubbock, Texas 79409 USA, and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061 USA  
A FOKKER-PLANCK EQUATION FOR GROWING CELL POPULATIONS
- C. Burnap, Department of Mathematics, University of North Carolina-Charlotte, Charlotte, North Carolina 28223 USA, and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061 USA  
A NOTE ON THE SPECTRAL THEOREM
- D. Iagolnitzer, Service de Physique Theorique, CEN-SACLAY, 91191 Gif-sur-Yvette, Cedex, France  
REGULARIZED AND RENORMALIZED BETHE-SALPETER EQUATIONS: SOME ASPECTS OF IRREDUCIBILITY AND ASYMPTOTIC COMPLETENESS IN RENORMALIZABLE THEORIES.  
  
IRREDUCIBILITY, ANALYTICITY AND UNITARITY OR ASYMPTOTIC COMPLETENESS IN MASSIVE QUANTUM FIELD THEORY: SOME GENERAL CONJECTURES AND RESULTS
- G. C. Hegerfeldt, Institut fur Theoretische Physik, Universitat Gottingen, Gottingen, W. Germany and A. P. Sloan Laboratory for Mathematics and Physics, California Institute of Technolgy, Pasadena, CA 91125  
VIOLATION OF CAUSALITY IN RELATIVISTIC QUANTUM THEORY?
- Gian Fabrizio De Angelis, Diego de Falco, and Glauco Di Genova, Dipartimento di Fisica, Facolta di Scienze, Universita di Salerno, I-84100 Salerno, Italy  
RANDOM FIELDS ON RIEMANNIAN MANIFOLDS: A CONSTRUCTIVE APPROACH
- J. T. Chayes and L. Chayes, Departments of Mathematics and Physics, Harvard University, Cambridge, MA 02138

PERCOLATION AND RANDOM MEDIA

J. T. Chayes, L. Chayes, Departments of Mathematics and Physics, Harvard University, Cambridge, MA 02138, and C. M. Newman, Department of Mathematics, University of Arizona, Tucson, AZ 85721

THE STOCHASTIC GEOMETRY OF INVASION PERCOLATION

PREPRINT(received in Tokyo)

- K. R. Ito, Dept. Math., Coll. Liberal Arts, Kyoto Univ., Kyoto 606 Japan, Permanent quark confinement in 4D hierarchical lattice gauge theories of Migdal-Kadanoff type.
- T. Umeda, Dept. Math., Osaka Univ., Osaka 560 Japan, Smooth perturbations in ordered Banach spaces and similarity for the linear transport operators.
- K. R. Ito, Dept. Math., Coll. Liberal Arts, Kyoto Univ., Kyoto 606 Japan, Absence of the Kosterlitz-Thouless fixed points in the Migdal-Kadanoff recursion formulas.
- S. Nakamura, Dept. Math., Univ. Tokyo, Hongo, Tokyo, 113 Japan, Asymptotic completeness for three-body Schrödinger equations with time-periodic potentials.
- Y. Saito, Dept. Math., Univ. Alabama at Birmingham, Birmingham, AL, 35294 U.S.A., Schrödinger operators with a nonspherical radiation condition.
- A. Inoue, Dept. Math., Tokyo Inst. Tech., Ohokayama, Tokyo 152 Japan Some examples exhibiting the procedures of renormalization and gauge fixing — Schwinger-Dyson equations of first order.
- T. Kawai, Dept. Phys., Osaka City Univ., Sumiyoshi-ku, Osaka 558 Japan, A Poincaré gauge theory of gravity.

# Stochastic Processes Mathematics and Physics

## PUBLICATIONS

Nr.	Author	Title
1	P. Calderoni, D. Dürr, S. Kusuoka	The Smoluchowski limit for a simple mechanical model.
2	H. Watanabe	Fluctuation in certain dynamical systems with averaging.
3	M. Jimbo, T. Miwa	Some remarks on differential approach to the star-triangle relation.
4	S. Albeverio, S. Kusuoka, L. Streit	Convergence of Dirichlet form and associated Schrödinger operators.
5	S. Albeverio, F. Gesztesy, W. Karwowski, L. Streit	On the connections between Schrödinger- and Dirichlet forms.
6	B. Zegarlinski	The global Markov property for non-FKG maximal Gibbs measures.
7	J. Bellissard, R. Lima, D. Testard	Almost periodic Schrödinger operators.
8	F. Gallone, A. Sparzani, G. Ubertone, R.F. Streater	Twisted condensates of quantized fields.
9	R. Figari, E. Orlandi, S. Teta	The Laplacian in regions with many small obstacles: Fluctuations around the limit operator.
10	M. Fukushima	Energy forms and diffusion processes
11	A. Grossmann, J. Morlet	Decomposition of functions into wavelets of constant shape, and related transforms

Nr.	Author	Title
12	S. Albeverio, R. Høegh-Krohn	A remark on dynamical semigroups in terms of diffusion processes.
13	A. Arai	Asymptotic analysis of fundamental solutions of Dirac operators on even dimensional Euclidean spaces.
14	T. Kolsrud	On the Markov property for certain gaussian random fields.
15	Z. Haba	Stochastic equations for fields on complex manifolds.
16	S. Albeverio, R. Høegh-Krohn, H. Holden	Markov processes on infinite dimensional spaces, Markov fields and Markov cosurfaces.
17	S. Golin	Uncertainty relations in stochastic mechanics.
18	Z. Haba	Instantons with noise. I. Equations for two-dimensional models.
19	Ph. Blanchard, J. Potthoff, R. Seneor	A remark on perturbation expansions for unstable actions via stochastic quantization.
20	S. Albeverio, W. Karwowski, M. Röckner, L. Streit	Capacity, Green's functions and Schrödinger Equation.
21	H. Hueber	A uniform estimate for Green functions on $C^{1,1}$ -domains.
22	S. Albeverio, R. Høegh-Krohn, D. Merlini	Some remarks on Euler flows, associated generalized random fields and Coulomb systems.
23	Y. Rozanov	Boundary Problems for Stochastic Partial Differential Equations.
24	G.O.S. Ekhaguere	Abstract differential equations on Fréchet spaces.
25	B. Zegarlinski	The Gibbs Measures and Partial Differential Equations. Part I Ideas and Local Aspects. Part II The Global Aspects.

Nr.	Author	Title
26 BiBoS I	A.P. Carverhill, M.J. Chappell, K.D. Elworthy	Characteristic exponents for stochastic flows.
27 BiBoS I	T. Lindstrøm	Nonstandard analysis and perturbations of the Laplacian along Brownian paths.
28 BiBoS I	W.R. Schneider	Rigorous scaling laws for Dyson measures.
29 BiBoS I	Y. Higuchi	Percolation of the two-dimensional Ising model.
30 BiBoS I	S. Kusuoka	The generalized Malliavin calculus based on Brownian sheet and Bismut's expansion for large deviation.
31 BiBoS I	R.F. Streater	The Fermion stochastic calculus I.
32 BiBoS I	H. Nagai	Stopping problems of symmetric Markov processes and non-linear variational inequalities.
33 BiBoS I	J.T. Lewis	An elementary approach to Brownian motion on manifolds.
34 BiBoS I	D. Dürr, S. Goldstein	Remarks on the central limit theorem for weakly dependent random variables.
35 BiBoS I	M.A. Pinsky	Mean exit times and hitting probabi- lities of Brownian motion in geodesic balls and tubular neighborhoods.
36 BiBoS I	E.A. Carlen	Existence and sample path properties of the diffusions in Nelson's stochastic mechanics.
37 BiBoS I	A. Truman	The stochastic mechanics of the ground- state of the hydrogen atom.
38 BiBoS I	Y. Le Jan	Hausdorff dimension for the statistical equilibrium of stochastic flows.
39 BiBoS I	H. Föllmer	Time reversal on Wiener space.
40 BiBoS I	L. Gross	Lattice gauge theory: Heuristics and convergence.
41 BiBoS I	R. Seneor	Asymptotic freedom : A rigorous approach



Nr.	Author	Title
42	G. Gallavotti, F. Nicolo	The "Screening Phase Transitions" in the two dimensional coulomb gas.
43	S. Golin	Comment on momentum in stochastic mechanics.
44	Ph. Combe, Ph. Blanchard	Probabilistic solution of the Dirac equation.
45 BiBoS I	S. Albeverio, R. Høegh-Krohn, H. Holden	Stochastic lie group-valued measures and their relations to stochastic curve integrals, gauge-fields and Markov cosurfaces.
46	M. Cini, M. Serva	Stochastic theory of emission and absorption of quanta.
47	D. Dürr, S. Goldstein, J.L. Lebowitz	Asymptotics of particle trajectories.
48 BiBoS I	G.F. Dell'Antonio	Electric field and effective dielectric constant in random media with non-linear response.
49 BiBoS I	J. Hawkes	Random-path intersections in geometry, probability and physics.
50	Ph. Blanchard, Weian Zheng	STOCHASTIC VARIATIONAL PRINCIPLE AND DIFFUSION PROCESSES

PREPRINTS (RECEIVED IN BIELEFELD)

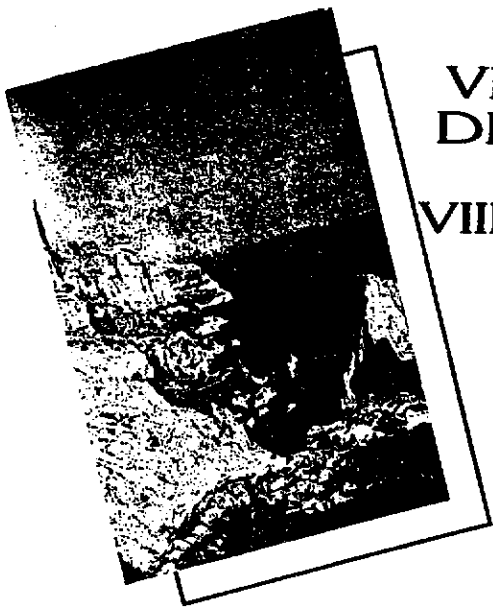
- R.Alicki, present address: Instituut voor Theor.Fysica, Universiteit Leuven, B-3030 Leuven, Belgium, and D.Makowiec, Institute of Theoretical Physics and Astrophysics, Gdansk University, PL - 80 952 Poland  
FUNCTIONAL INTEGRALS FOR PARABOLIC DIFFERENTIAL EQUATIONS
- G.F.De Angelis, D.de Falco, Dipartimento di Fisica, Facoltà di Scienze, Università di Salerno, I-84100 Salerno, Italy and INFN, Sezione di Napoli, and G.Di Genova, Dipartimento di Fisica, Facoltà di Scienze, Università di Salerno, I-84100 Salerno, Italy  
RANDOM FIELDS ON RIEMANNIAN MANIFOLDS: A CONSTRUCTIVE APPROACH
- J.-P.Antoine, Institut de Physique Théorique, Université Catholique de Louvain, B-1348 Louvain-la-Neuve  
STATES AND REPRESENTATIONS OF PARTIAL \*-ALGEBRAS
- J.-P.Antoine and M.Jacques, address see above  
FURTHER REMARKS ON CLASSICAL YANG-MILLS FIELDS WITH NON-COMPACT SYMMETRY
- M.Baldo, Istituto Nazionale di Fisica Nucleare, Sezione Catania, Corso Italia 57, Catania, Italy, L.S.Ferreira, L.Streit, Fakultät für Physik, Universität Bielefeld, D-4800 Bielefeld 1, FRG, T.Vertse, Institute of Nuclear Research of Hung.Acad. of Sci., P.O.B. 51, H-4001 Debrecen, Hungary  
GAMOW SEPARABLE APPROXIMATIONS FOR REALISTIC N-N INTERACTIONS.  
I. THE SINGLE CHANNEL CASE
- B.Baumgartner and H.Grosse, Institut für Theoretische Physik der Universität Wien, and A.Martin, CERN - Geneva  
THE LAPLACIAN OF THE POTENTIAL AND THE ORDER OF ENERGY LEVELS  
ORDER OF LEVELS IN POTENTIAL MODELS  
INEQUALITIES FOR SCATTERING PHASE SHIFTS
- Ju.M.Berezansky, Ukrainian Acad. of Sciences, Math. Institute, ul. Repina 3 252601 Kiev, U.S.S.R.  
THE INTEGRATION OF SEMI-INFINITE TODA CHAIN BY MEANS OF INVERSE SPECTRAL PROBLEM
- J.Blank, M.Havlíček, p.a. Nuclear Centre of the Charles University, Prague, V Holešovičkách 2, 180 00 Praha 8 Czechoslovakia, Joint Institute for Nuclear Research, Dubna 1985  
IRREDUCIBLE \*-REPRESENTATIONS OF LIE SUPERALGEBRAS  $B(0,n)$  WITH FINITE-DEGENERATED VACUUM. General Considerations  
IRREDUCIBLE \*-REPRESENTATIONS OF LIE SUPERALGEBRAS  $B(0,n)$  WITH FINITE-DEGENERATED VACUUM. Results for  $B(0,1)$
- D.Bollé, on leave of absence from Instituut voor Theor.Fysica, Universiteit Leuven, B-3030 Leuven, Belgium and F.Gesztesy, on leave of absence from Institut für Theor.Phys., Universität Graz, Austria, Zentrum für interdisziplinäre Forschung Universität Bielefeld, D-4800 Bielefeld FRG  
SCATTERING THEORY FOR LONG-RANGE SYSTEMS AT THRESHOLD
- T.C.Bountis, V.Papageorgiou, and P.Winternitz, Centre de recherches mathem. Univ. de Montreal, C.P. 6128, succ. A. Montreal, Quebec H3C 3J7 Canada  
ON THE INTEGRABILITY OF SYSTEMS OF NONLINEAR ODE'S WITH SUPERPOSITION PRINCIPLES
- D.Buchholz, II. Institut f. Theoretische Physik, Universität Hamburg, S.Doplicher, R. Longo, Dipartimento di Matematica, Università di Roma  
ON NOETHERS THEOREM IN QUANTUM FIELD THEORY
- W.Bulla, Institut für Theor.Phys., Techn.Universität Graz, A-8010 Graz, Austria, and F.Gesztesy, Institut für Theor.Phys., Universität Graz, A-8010 Graz  
DEFICIENCY INDICES AND SINGULAR BOUNDARY CONDITIONS IN QUANTUM MECHANICS

- D.Castrigiano, TU München, Arcisstraße 21, D-8000 München 2, and N.Kokiantonis, LMU-München, Theresienstr. 37, D-8000 München 2  
QUANTUM OSCILLATOR IN A NON-SELFINTERACTING RADIATION FIELD-EXACT CALCULATION OF THE PARTITION FUNCTION
- R.Coquereaux, Centre de Physique Théorique, Section 2, CNRS, Luminy, Marseille, and A.Jadczyk, CERN - Geneva (on leave from University of Wrocław, Poland)  
HARMONIC EXPANSION AND DIMENSIONAL REDUCTION IN G/H KALUZA-KLEIN THEORIES
- M.A.Del Olmo, M.A.Rodriguez, and P.Winternitz, Centre de recherches mathématiques, Univ. de Montreal C.P.6128, succ. A.Montreal, Quebec H3C 3J7 Canada  
SIMPLE SUBGROUPS OF SIMPLE LIE GROUPS AND NONLINEAR DIFFERENTIAL EQUATIONS WITH SUPERPOSITION PRINCIPLES
- F.Delyon, Y. Lévy and B.Souillard, Centre de Phys.Théor., Ecole Polytechnique F-91128 Palaiseau, France  
ANDERSON LOCALIZATION FOR ONE- AND QUASI ONE-DIMENSIONAL SYSTEMS
- V.Enß, Freie Universität Berlin, Fachbereich Mathematik, Arnimallee 2-6, D-1000 Berlin 33 FRG  
QUANTUM SCATTERING THEORY FOR TWO- AND THREE-BODY SYSTEMS WITH POTENTIALS OF SHORT AND LONG RANGE
- H.Englisch, Karl-Marx-Universität, Sektion Mathematik, DDR-7010 Leipzig, and P.Šeba (on leave of absence from the Nuclear Centre, Faculty of Mathematics and Physics, Charles Univ., Prague, Czechoslovakia)  
THE STABILITY OF THE DIRICHLET AND NEUMANN BOUNDARY CONDITIONS
- J.Fannes, Instituut voor Theor.Fys. Katholieke Universiteit Leuven, Celestijnenlaan 200 D, B-3030 Leuven, Belgium and H.Roos, Institut für Theor.Phys. der Univ.Göttinge, Bunsenstr. 9, D-3400 Göttingen  
ON MEASURES OF THE DISTANCE TO THE CENTRE IN  $W^*$ -ALGEBRAS
- F.Gesztesy, p.a. Institut für Theor.Phys., Univ. Graz, Austria, and G.Karner, p.a. Inst.f.Theor.Phys., Univ.Wien, A-1090 Wien, Austria, Zentrum für interdisziplinäre Forschung, Universität Bielefeld, D-4800 Bielefeld 1, FRG  
ZiF-preprint  
ON THREE-BODY SCATTERING NEAR THRESHOLDS
- F.Gesztesy, address see above, C.Madedo and L.Streit, Fakultät für Physik, Universität Bielefeld, D-4800 Bielefeld 1, FRG  
AN EXACTLY SOLVABLE PERIODIC SCHRÖDINGER OPERATOR
- S.Giler, P.Kosinski, J.Rembieliriski, Institute of Physics, Univ.of Łódź, and P.Maslanka, Institute of Mathematics, Univ.of Łódź, Poland  
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COMMENT ON MOMENTUM IN STOCHASTIC MECHANICS
- H.P.W.Gottlieb, School of Science, Griffith University, Nathan, Brisbane, Queensland 4111, Australia  
ON THE EXCEPTIONAL ZEROS OF CROSS-PRODUCTS OF DERIVATIVES OF SPHERICAL BESSEL FUNCTIONS
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VORTEX DYNAMICS OF CAVITY FLOWS

- A.S.Holevo, p.a. Steklov Mathematical Institute, Moscow, U.S.S.R.,  
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Stockholm, Sweden  
STATISTICAL DEFINITION OF OBSERVABLE AND THE STRUCTURE OF  
STATISTICAL MODELS
- B.S.Kay, Enrico Fermi Institute, University of Chicago, 5630 S.Ellis Avenue,  
Chicago Ill. 60637, U.S.A., and Institute for Theor.Phys. (permanent  
address) Universität Zürich, Schönberggasse 9, CH-8001 Zürich Switzerland  
PURIFICATION OF KMS STATES  
A UNIQUENESS RESULT FOR QUASI-FREE KMS STATES  
THE DOUBLE-WEDGE ALGEBRA FOR QUANTUM FIELDS ON SCHWARZSCHILD AND  
MINKOWSKI SPACETIMES
- J.-D.Kern, Akademie der Wissenschaften der DDR, Institut für Mathematik,  
Rudower Chaussee 5, DDR-1199 Berlin  
ON JAFFE FIELDS AT A POINT
- P.Kruszyński, Eindhoven University of Technology, Department of Mathematics  
and Computing Science, P.O.B. 513, 5600 MB Eindhoven, The Netherlands  
ORTHOGONALLY SCATTERED MEASURES ON NON-BOOLEAN SEMI-RINGS
- G.Lindblad, Department of Theoretical Physics, Royal Institute of Technology,  
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QUANTUM ERGODICITY AND CHAOS  
CONTINUITY AND COMPOSITION OF QUANTUM STOCHASTIC PROCESSES
- A.Martin, CERN - Geneva  
V.GLASER'S RESULTS ON THE WAVE FUNCTION AT THE ORIGIN AND THE SEMI-  
CLASSICAL LIMIT
- H.Narnhofer and W.Thirring, Institut für Theoretische Physik, Universität  
Wien  
FROM RELATIVE ENTROPY TO ENTROPY
- D.Petz, p.a. Mathematical Institute, H.A.S. P.O.B. 127, H-1364 Budapest, now  
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PROPERTIES OF QUANTUM ENTROPY
- E.Prugovečki, Department of Mathematics, University of Toronto,  
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A FIBRE BUNDLE FORMULATION OF QUANTUM GEOMETRY
- M.Requardt, A.Sloan Lab. of Math. & Phys. 253-37, California Institute of  
Technology, Pasadena, CA. 91125 U.S.A. (p.a.: Inst.f.Theor.Phys.  
Universität Göttingen, Bunsenstr. 9, D-3400 Göttingen, FRG)  
AN INVESTIGATION AND CONSTRUCTION OF SCATTERING INVARIANTS IN  
CLASSICAL MECHANICS AND QUANTUM THEORY BY DIFFERENTIAL TOPOLOGICAL  
METHODS  
REEH-SCHLIEDER TYPE DENSITY RESULTS IN ONE-AND n-BODY SCHRÖDINGER THEORY  
AND THE "UNIQUE CONTINUATION PROBLEM"
- A.Ronveaux, Department of Physics, Facultés Universitaires, Notre-Dame de la  
Paix, B-5000 Namur, Belgium  
DISCRETE SEMI CLASSICAL ORTHOGONAL POLYNOMIALS - GENERALIZED MEIXNER
- A.Ronveaux and J.L.Meunier, address see above  
GAUSSIAN TYPE QUADRATURE FORMULAS FOR SUMMATION
- A.I.Solomon, (p.a.: Faculty of Mathematics, Open University, Milton Keynes,  
MK7, 6AA, UK) and J.L.Birman, (p.a.: Department of Physics, City College  
of Cuny, NY 10031, U.S.A.), IHES, Bures-Sur-Yvette, France  
DYNAMICAL ALGEBRA, UNITARY STATES, AND THERMAL GREEN'S FUNCTIONS OF  
MANY FERMION SYSTEMS

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

## VIIIth INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS



16/25 juillet 1986  
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campus universitaire  
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# INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS



IAMP NEWS BULLETIN

September 1985

## The Mark Kac Memorial Fund

Committee of Concerned Scientists, Inc.

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July 1985

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Dear Colleague:

The world of science and the human community at large suffered a great loss at the death of our colleague Professor Mark Kac last October. The lucidity and elegance of his science were complemented by a compassion for victims of oppression, everywhere. His resolve to help fellow scientists in trouble all over the world inspired those of us at the CCS who were privileged to work with him during his years of service as our cochairmen. He refused to despair over the enormity of the problems and the meagerness of our resources in combating them.

In an attempt to continue his important work on behalf of oppressed scientists and engineers, the Mark Kac Memorial Fund has been established in his memory. The monies raised are used to provide assistance to colleagues denied their fundamental freedoms by oppressive governments of whatever political persuasion. This includes material assistance, books and journals and any other help we can provide to improve their condition. This work has already begun, and it is fitting, we think, that the first outlays from the fund were used to support scientists from Professor Kac's native Poland.

We invite your participation in this work, particularly if you have not yet contributed. All donations are tax deductible. Checks should be made payable to CCS--Mark Kac Fund and mailed to the Committee of Concerned Scientists at the above address.

Sincerely yours,

*Joel Lebowitz*  
Joel Lebowitz

*Paul H. Plotz*  
Paul Plotz  
Cochairmen

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## CALL FOR PAPERS

Dear colleague:

The journal "Acta Physica Austriaca" has now been changed to its new format under the headline of FEW-BODY SYSTEMS. From 1986 on it should thus serve as the forum for research on few-body problems in the various fields of natural science. It will be devoted to the publication of original research work, both of theoretical and experimental nature, in areas such as particle, nuclear, atomic, and molecular physics, and also in chemistry, astronomy as well as mathematics.

Few-body systems are understood as consisting of a small number of well-defined constituent structures. Investigations on the behaviour and dynamics of these systems form the central subject-matter of the journal. Particular examples of few-body systems are light nuclei, light atoms, small molecules, "elementary" particles (considered as systems of few constituents) but also celestial systems or any larger system with a few-body substructure. The focus of interest lies in research methods, properties, and results characteristic of such few-body systems.

Beyond publishing original research work the journal FEW-BODY SYSTEMS will also be devoted to a rapid dissemination of scientific and practical information about actual developments and ongoing activities. By adding a News Section containing titles and abstracts of recent preprints, information about forthcoming conferences and so on the journal will provide a comprehensive evidence on the field.

There will be no page charges. 50 reprints of each article published are supplied free of charge; additional copies may be ordered at cost price.

We are now prepared to receive articles for the first volume to appear quarterly in 4 issues in 1986. The papers should be typical research articles of at most 30 pages in length, but letters and comments are acceptable too. Instructions for the preparation of manuscripts are given on a special leaflet, which is presently being sent out by Springer-Verlag Vienna. Manuscripts should be submitted to

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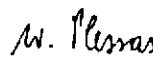
Every paper submitted will be scrutinized by experts in the field of the work, who as referees will advise the editors in accepting or rejecting the article. Referees are generally asked to take into account subject-matter, scientific value, and presentation in reaching their recommendations. In case of doubt or if referees give conflicting advice, members of the editorial board or additional referees will be consulted as adjudicators.

The price of the first volume (4 issues) is AS 1920 (DM 268, US \$ 97) within Europe and US \$ 113 (including carriage charges) for oversea countries.

If you have further questions please contact us under the address given above. We would also be glad to receive further suggestions.



H. Mitter



W. Plassas

P.S. Please note that from now on you should also send your preprints directly to our office, if you want their abstracts to be included in the News Section of FEW-BODY SYSTEMS. The deadline for receipt of a preprint, whose abstract should come out in the next issue is one month before the appearance (January, April, July, October) of this very issue.

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GAUGE THEORY OF THE FIRST GENERATION:  
I. BASIC THEORY OF ELECTROSTRONG INTERACTIONS  
II. BASIC THEORY OF STRONG, WEAK AND ELECTROMAGNETIC INTERACTIONS  
III. THE FREE LAGRANGIANS

Roger G. Newton, Physics Department, Indiana University, Bloomington, IN 47405  
VARIATIONAL PRINCIPLES FOR INVERSE SCATTERING

Tuncay Aktosun and Roger G. Newton, Physics Department, Indiana University, Bloomington, IN 47405  
NONUNIQUENESS IN THE ONE DIMENSIONAL INVERSE SCATTERING PROBLEM

James H. Rose, Brian DeFacio, Institute of Theoretical Physics, Chalmers University of Technology, S-412 96 Goteborg, Sweden, and Margaret Cheney, Department of Mathematics, Stanford University, Stanford, CA 94305  
PHYSICAL BASIS OF THREE DIMENSIONAL INVERSE SCATTERING FOR THE PLASMA WAVE EQUATION

James H. Rose, Ames Laboratory - U.S.DOE, Iowa State University Ames, IA 50011, Margaret Cheney, Department of Mathematics, Duke University, Durham, NC 27706, and Brian DeFacio, Department of Physical Mathematics, University of Science and Technology at Lanquedoc, Place Eugene-Bataillon, Montpellier CEDEX 34060 France  
THREE DIMENSIONAL INVERSE SCATTERING: PLASMA AND VARIABLE VELOCITY WAVE EQUATIONS

Joseph C. Varilly and Jose M. Gracia-Bondia, Escuela de Matematica, Universidad de Costa Rica, San Jose, Costa Rica  
TWISTED PRODUCTS AND DISTRIBUTION ALGEBRAS

Ezra Getzler, Department of Mathematics, Harvard University, Cambridge, MA 02138  
DEGREE THEORY FOR WIENER MAPS

THE DEGREE OF THE NICOLAI MAP IN SUPERSYMMETRIC QUANTUM MECHANICS

Tadeusz Balaban, Department of Physics, Harvard University, Cambridge, MA 02138  
THE VARIATIONAL PROBLEM AND BACKGROUND FIELDS IN RENORMALIZATION GROUP METHOD FOR LATTICE GAUGE THEORIES

Michel L. Lapidus, Department of Mathematics, University of Southern California, Los Angeles CA 90089  
SPECTRAL THEORY OF ELLIPTIC PROBLEMS WITH INDEFINITE WEIGHTS

THE DIFFERENTIAL EQUATION FOR THE FEYNMAN-KAC FORMULA WITH A LEBESGUE-STIELTJES MEASURE

Alice Young and Cecile Dewitt-Morette, Department of Physics, The University of Texas, Austin TX 78712  
TIME SUBSTITUTIONS IN STOCHASTIC PROCESSES AS A TOOL IN PATH



INTEGRATION

Petr Seba, Sektion Mathematik, Karl-Marx-Universität, 701 Leipzig, DDR  
SCHRÖDINGER PARTICLES ON A HALF LINE

A REMARK ABOUT THE POINT INTERACTION IN ONE DIMENSION

REGULARIZED POTENTIALS IN NONRELATIVISTIC QUANTUM MECHANICS II.  
THE THREE DIMENSIONAL CASE

D.W. Rand, Centre de recherches mathématiques, Université de Montréal, C.P. 6128, Montréal,  
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PASCAL PROGRAMS FOR IDENTIFICATION OF LIE ALGEBRAS PART I.  
RADICAL

Mark A. Kon, Department of Mathematics, Boston University, Boston MA 02215  
INTEGRALS OF PURELY RANDOM FIELDS, I

REGULARITY PROPERTIES OF SCHRÖDINGER OPERATORS ON DOMAINS OF  
 $\mathbb{R}^{**n}$

David Gurarie, Case Western Reserve University, Cleveland OH 44106, and Mark A. Kon,  
(address above)

RADIAL BOUNDS FOR PERTURBATIONS OF ELLIPTIC OPERATORS

Gerard G. Emch, Dept. of Mathematics and of Physics, The University of Rochester, Rochester,  
NY 14627, and Gerhard C. Hegerfeldt, A. P. Sloan Lab. of Mathematics and Physics,  
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NEW CLASSICAL PROPERTIES OF QUANTUM COHERENT STATES

Mark S. Ashbaugh, Dept. of Mathematics, University of Missouri, Columbia MO 65211 and  
Evans M. Harrell II, School of Mathematics, Georgia Institute of Technology, Atlanta, GA  
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MAXIMAL AND MINIMAL EIGENVALUES AND THEIR ASSOCIATED NONLINEAR  
EQUATIONS

James Glimm, Courant Inst. of Mathematical Sciences New York University, New York, NY  
10012, and D. H. Sharp, Los Alamos National Laboratory, Los Alamos, NM 87545

AN S MATRIX THEORY FOR CLASSICAL NONLINEAR PHYSICS

ELEMENTARY WAVES FOR HYPERBOLIC EQUATIONS IN HIGHER SPACE  
DIMENSIONS: AN EXAMPLE FROM PETROLEUM RESERVOIR MODELING

Tom Kennedy and Chris King, Department of Physics, Princeton University, Princeton NJ  
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E. Caliceti, V. Grecchi and M. Maioli, Dipartimento di Matematica, Università di Modena, 41100  
Modena - Italy

THE DISTRIBUTIONAL BOREL SUMMABILITY AND THE LARGE COUPLING  $\phi^4$   
LATTICE FIELDS

Gregory F. Lawler, Department of Mathematics, Duke University, Durham, NC 27706

GAUSSIAN BEHAVIOR OF LOOP-ERASED SELF-AVOIDING RANDOM WALK IN  
FOUR DIMENSIONS

Paul Federbush, Department of Mathematics, University of Michigan, Ann Arbor, Michigan,  
A PHASE CELL APPROACH TO YANG-MILLS THEORY, IV GENERAL MODES AND  
GENERAL STABILITY

George A. Hagedorn and Joseph Slawny, Virginia Polytechnic Institute and State University,  
Blacksburg, Virginia, Michael Loss, Department of Physics, Princeton University,  
Princeton, New Jersey,  
NON-STOCHASTICITY OF TIME DEPENDENT QUADRATIC HAMILTONIANS AND  
THE SPECTRA OF CANONICAL TRANSFORMATIONS

Gerald W. Johnson, University of Nebraska, Department of Mathematics and Statistics,  
Lincoln, Nebraska and Michel L. Lapidus, Mathematical Sciences Research Institute,  
Berkeley, California, and University of Southern California, Department of Mathematics,  
Los Angeles, California,  
GENERALIZED DYSON SERIES, GENERALIZED FEYNMAN DIAGRAMS. THE  
FEYNMAN INTEGRAL AND FEYNMAN'S OPERATIONAL CALCULUS

PREPRINT (received in Tokyo)

S. Nakamura, Dept. Math., Univ. Tokyo, Hongo, Tokyo, 113 Japan  
A remark on eigenvalue splittings for one-dimensional double-  
well Hamiltonians

Y. Tsutsumi, Faculty of Integrated Arts and Sciences, Hiroshima  
Univ., Higashisenda-machi, Hiroshima 730 Japan  
 $L^2$ -solutions for nonlinear Schrödinger equations and nonlinear  
groups.

T. Koma and H. Ezawa, Dept. Physics, Gakushuin Univ., Mejiro, Tokyo  
171 Japan  
Incompleteness of the set of eigenstates by the Bethe Ansatz.

#### BOOK ANNOUNCEMENT

P.Exner: OPEN QUANTUM SYSTEMS AND FEYNMAN INTEGRALS  
D.Reidel Publ. Co., Dordrecht-Boston-Lancaster 1984  
Fundamental Theories of Physics, vol. 6  
376 pp.cloth, Dfl. 160,--  
ISBN 90-277-1678-1

Contents: Preface- Prerequisites for reading. List of  
symbols and notations. 1. Quantum kinematics of  
unstable systems. 2. Repeated measurements on unstable  
systems. 3. Dynamics and symmetries. 4. Pseudo-  
Hamiltonians. 5. Feynman path integrals. 6. Application  
to Schrödinger pseudo-Hamiltonians. Selected problems.  
Appendix. Bibliography. Subject index.

# Stochastic Processes Mathematics and Physics

## PUBLICATIONS

- 51 R. Dilao Entropies for cellular automata.
- 52 a M. Manolessou The  $\Phi_2$ -equations of motion.  
I. Sign and splitting properties -  
definition of the  $\Phi_\Lambda$  subsets.
- 52 b M. Manolessou II. The zero dimensional problem.
- 52 c M. Manolessou III. The construction of the solution.
- 53 P. Garbaczewski Constituent quantization of soliton fields.  
I: Canonical action-angle formalism for the  
Sine-Gordon system.  
II. Nonlinear Schrödinger system.
- 54 A. Boukricha,  
W. Hansen,  
H. Hueber Continuous solutions of the generalized  
Schrödinger equation and perturbation of  
harmonic spaces.
- 55 Y. Okabe  
BiBoS II Langevin equation and fluctuation-  
dissipation theorem.
- 56 G. Ekahguere Quantum stochastic integration and the  
Ito formula

# Stochastic Processes Mathematics and Physics

- 57 H. Nencka-Ficek Topological properties of hypercubes and graphs and overblocking effect in Ising model.
- 58 Z. Hába Stochastic equations for gauge fields.
- 59 Z. Hába  
BiBoS II Stochastic equations for some Euclidean fields.
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Weian Zheng Pathwise conservation law for stationary diffusion processes.
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Ph. Combe, M. Sirugue,  
M. Sirugue-Collin Path integral representation for the solution of the Dirac equation in presence of an electromagnetic field.
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M. Serva,  
N. Zanghi Stochastic mechanics of a Dirac particle in two space-time dimensions.
- 72 R.F. Streater Title to be announced.
- 73 M. Takeda  
BiBoS II On the uniqueness of the Markovian self-adjoint extension.
- 74 Y. Oshima,  
M. Takeda  
BiBoS II On a transformation of symmetric Markov process and recurrence property.

# Stochastic Processes Mathematics and Physics

- |    |   |   |
|----|---|---|
| 75 | W. Kirsch<br>BiBoS II                               | Estimates on the difference between succeeding eigenvalues and Lifshitz tails for random Schrödinger operators.     |
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| 83 | H. Watanabe<br>BiBoS II                             | Averaging and fluctuations of certain stochastic equations.   |
| 84 | T. Koski,<br>W. Loges,<br>BiBoS II                  | On identification for distributed parameter systems   |
| 85 | W. Zheng<br>BiBoS II                                | Semimartingale with smooth density.<br>- the problem of "nodes" -   |
| 86 | I.M. Davies<br>BiBoS II                             | A "Brownian motion" with constant speed.  |
| 87 | E. Presutti<br>BiBoS II                             | Collective phenomena in stochastic particle systems   |
| 88 | P.A. Meyer<br>BiBoS II                              | Fock space and probability theory.  |
| 89 | H. Fukushima,<br>N. Nakao,<br>M. Takeda<br>BiBoS II | On Dirichlet forms with random data<br>-- recurrence and homogenization.  |
| 90 | S. Albeverio,<br>R. Høegh-Krohn,<br>H. Holden       | Stochastic multiplicative measures, generalized Markov semigroups and group valued stochastic processes and fields. |

# Stochastic Processes Mathematics and Physics

- 91 G. Ekhaguere Decomposition theorems and stochastic integration in partial\*- Algebras.
- 92 Y. Okabe On the theory of the Brownian motion with Alder-Wainwright effect.
- 93 Y. Okabe On fluctuations-dissipation theorems for KMO-Langevin equations with T-positivity.
- 94 L. Vázquez Time-energy Heisenberg like relations for nonlinear classical fields.
- 95 L. Vázquez Particle spectrum estimations for the quantum field theory  $\phi_{tt} - \phi_{xx} + \frac{m^4}{\sqrt{\lambda}} \sin(\frac{\sqrt{\lambda}}{m}\phi) = 0$  on a Minkowski lattice.
- 96 G.O.S. Ekhaguere, L. Vázquez Existence of non-spherically symmetric scalar localized solutions in three space dimensions.
- 97 S. Golin Indeterminacy relations in stochastic mechanics.
- 98 P. Garbaczewski Boson-fermion duality in four dimensions: Comments on the paper by Luther and Schotte.
- 99 S. Albeverio Non standard analysis: Application to probability theory and mathematical physics. (To appear in Nov. 85)
- 100 L.-A. Alvarez-Gaumé Topological methods and field theory. (To appear in Nov. 85)
- 101 D. BOLLÉ Sum rules in scattering theory and applications to statistical mechanics. (To appear in Nov. 85)
- 102 J. Ginibre, G. Velo Non-linear evolution equation: Cauchy problem and scattering theory. (To appear in Nov. 85)
- 103 H. Grosse The inverse method. in quantum mechanics and field theory. (To appear in Nov. 85)
- 104 G. Jona-Lasinio Tunneling in one dimensional general theory, instabilities rules of calculation, applications. (To appear in Nov. 85)

# Stochastic Processes Mathematics and Physics

- |     |            |   |
|-----|------------|---|
| 105 | D. Kastler | Geometric aspects of BRS and anomalies.<br>(To appear in Nov. 85)                               |
| 106 | Chr. Lang  | Computer quantum field theory.<br>(To appear in Nov. 85)  |
| 107 | H. Hueber  | Examples of irregular domains for some<br>hypoelliptic differential operators.                  |
| 108 | Y. Rozanov | Boundary problems for stochastic partial<br>differential equations.<br>(Revised version No. 23) |

PREPRINTS (RECEIVED IN BIELEFELD)

- P.C.Aichelburg and F.Embacher, Institut für Theoretische Physik, Univ.Wien  
MONOPOLE-LIKE SPIN-3/2 FIELDS ON BLACK HOLE SPACETIMES
- A.Amann, Laboratorium für Physikalische Chemie, Eidgenössische Hochschule  
ETH-Zentrum, CH-8092 Zürich  
BROKEN SYMMETRIES AND THE GENERATION OF CLASSICAL OBSERVABLES IN  
LARGE SYSTEMS
- A.Amann and U.Müller-Herold, address see above, MOMENTUM OPERATORS FOR  
LARGE SYSTEMS
- J.Audretsch, Fakultät für Physik, Universität Konstanz, Postfach 5560,  
D-7750 Konstanz  
QUANTUM FIELD THEORY OF MUTUALLY INTERACTING PARTICLES IN EXPANDING  
UNIVERSES
- J.Audretsch and P.Spangenh1, address see above, MUTUALLY INTERACTING QUANTUM  
FIELDS IN AN EXPANDING UNIVERSE: DECAY OF A MASSIVE PARTICLE
- P.Basarab-Horwath and R.W.Tucker, Department of Physics, Lancaster Univ.,  
Lancaster LA1 4YB, U.K.  
A QUANTIZATION FOR KÄHLER FIELDS IN STATIC SPACE-TIMES
- B.Baumgartner, Institut für Theoretische Physik, Universität Wien  
LEVEL COMPARISON THEOREMS
- P.Božek, M.Havlíček, O.Navrátíl, Universitas Carolina Pragensis,  
Matematicko-Fyzikalni Fakulta, Praha CSSR  
A NEW RELATIONSHIP BETWEEN LIE ALGEBRAS OF POINCARÉ AND DE SITTER GROUPS
- Th.P.Branson and B.Ørsted, Matematisk Institut Universitetsparken 5,  
2100 København Ø, Danmark  
A CONFORMAL INDEX FOR RIEMANNIAN MANIFOLDS
- J.Burzlaff, School of Theoretical Physics, Dublin Institute for Adv.Studies  
10 Burlington Road, Dublin 4, Ireland, and D.H.Tchrakian, p.a.:  
Department of Math.Phys., St.Patrick's College, Maynooth, Co.Kildare, Eire  
FINITE-ACTION SOLUTIONS OF HIGHER-ORDER YANG-MILLS-HIGGS THEORY IN  
FOUR DIMENSIONS
- J.F.Cariñena, Dep. de Física Teórica, Facultad de Ciencias, Universidad de  
Zaragoza  
ON SOME GEOMETRICAL ASPECTS OF SYMMETRY IN CLASSICAL MECHANICS
- J.F.Cariñena and L.A.Ibort, address see above  
GEOMETRIC THEORY OF THE EQUIVALENCE OF LAGRANGIANS FOR CONSTRAINED  
SYSTEMS
- M.Combescure, Laboratoire de Physique Théorique et Hautes Energies, Univ.  
de Paris-Sud, Bât. 211, 91405 Orsay Cédex, France  
A QUANTUM PARTICLE IN A QUADRUPOLE RADIO-FREQUENCY TRAP
- I.Daubechies, Theor.Natuurkunde, Vrije Universiteit Brussel, Pleinlaan 2,  
B-1050 Brussels, Belgium, A.Grossmann, Centre de Physique Théorique II  
CNRS - Luminy, Case 907, F-13288 Marseille Cedex 9, France, and  
Y.Meyer, Centre de Mathématiques, Ecole Polytechnique, F-91128 Palaiseau  
Cedex, France  
PAINLESS NON-ORTHOGONAL EXPANSIONS
- E.B.Davies, Dep. of Mathematics, King's College, Strand, London WC2R 2LS,  
England, and B.Simon, Division of Physics, Mathematics and Astronomy  
California Inst. of Technology, Pasadena, Ca. 91125, USA  
L<sup>1</sup>-PROPERTIES OF INTRINSIC SCHRÖDINGER SEMIGROUPS
- J.Dittrich, Nuclear Physics Institute, Czechoslovak Academy of Sciences,  
250 68 Rez near Prague, Czechoslovakia, and P.Exner, JINR Dubna,  
P.O.Box 79, 101 000 Moscow USSR  
NONEXISTENCE OF FINITE-ENERGY SOLUTIONS IN SOME GAUGE MODELS



- M.J.Donald, 18 Holland Street, Cambridge CB4 3DL, Great Britain  
ON THE RELATIVE ENTROPY
- S.Doplicher and J.E.Roberts, Dip. di Matematica, Univ. di Roma "La Sapienza",  
00185 ROMA, Italy  
DUALS OF COMPACT LIE GROUPS REALIZED IN THE CUNTZ ALGEBRAS AND THEIR  
ACTIONS ON C\*-ALGEBRAS
- G.G.Emch, p.a.: Dept. of Mathematics and of Physics, The University of  
Rochester, Rochester, NY 14627 USA, and G.C.Hegerfeld, p.a.: Inst.f.  
Theoretische Physik, Universität Göttingen, Göttingen, W.-Germany  
NEW CLASSICAL PROPERTIES OF QUANTUM COHERENT STATES
- J.Fröhlich, Theoretische Physik ETH-Hönggerberg, CH-8093 Zürich  
SURVEY OF RANDOM SURFACE THEORY
- J.Fröhlich, Theoretical Physics, ETH-Hönggerberg, CH-8093 Zürich,  
Th.Spencer, Courant Institute of Mathematical Sciences, NYU, 251 Mercer Str.,  
New York, N.Y. 10012 USA, and C.E.Wayne, Dep. of Mathematics, The Pennsylvania  
State University, University Park, PA 16802 USA  
LOCALIZATION IN DISORDERED, NON-LINEAR DYNAMICAL SYSTEMS
- T.Garavaglia, Institiúid Ard-Léighinn, Baile Atha Cliath 4, Eire  
FINITE TEMPERATURE FIELD THEORY AND QUANTUM NOISE IN AN ELECTRICAL NETWORK
- J.Ginibre, Laboratoire de Physique Théorique et Hautes Energies, Univ. de  
Paris-Sud, 91405 Orsay Cedex, France, and G.Velo, Dip. di Fisica, Univ. di  
Bologna and INFN, Sezione di Bologna, Italy  
TIME DECAY OF FINITE ENERGY SOLUTIONS OF THE NON LINEAR KLEIN-GORDON  
AND SCHRÖDINGER EQUATIONS
- R.K.Goodrich, K.Gustafson, Dep. of Mathematics, Univ. of Colorado, Boulder, Colorado  
and B.Misra, Faculte des Sciences, Univ. Libre de Bruxelles, Campus Plaine,  
C.P. 231, 1050 Brussels, Belgium  
ON K-FLOWS AND IRREVERSIBILITY
- K.Gustafson and R.Leben, University of Colorado, Boulder, Colorado 80303 USA  
MULTIGRID CALCULATION OF SUBVORTICES
- P.A.Horváthy and C.Nash, School of Theoretical Physics, Dublin Inst.f. Adv. Studies  
10 Burlington Road, Dublin 4, Ireland  
GEOMETRIC VIEW ON TOPOLOGICALLY MASSIVE GAUGE THEORIES
- R.L.Hudson, Math. Dep., Univ. of Nottingham, University Park, Nottingham NG7 2RD  
England, and K.R.Parthasarathy, Indian Statistical Institute, 7 SJS Sansanwal  
Marg, New Delhi 110016, India  
UNIFICATION OF FERMION AND BOSON STOCHASTIC CALCULUS
- A.Jadczyk, Institute of Theoretical Physics, University of Wrocław, ul. Cybulskiego  
36, 50-205 Wrocław, Poland  
FIBER BUNDLES AND KALUZA-KLEIN THEORY
- M.Kibler, Institut de Physique Nucléaire (et IN2P3), Univ. Claude Bernard Lyon-1  
43, Bd. du 11 Novembre 1918, 69622 Villeurbanne Cedex, France  
A.Ronveaux, Dép. de Phys., Facultés Universitaires Notre-Dame de la Paix,  
5000 Namur, Belgique, and T.Negadi, Institut de Physique, Univ. d'Oran,  
Es-Senia, Oran, Algeria  
ON THE HYDROGEN-OSCILLATOR CONNECTION: PASSAGE FORMULAE BETWEEN WAVE  
FUNCTIONS
- T.Koma and H.Ezawa, Department of Physics, Gakushuin University, Mejiro,  
Toshima-ku, Tokyo 171, Japan  
INCOMPLETENESS OF THE SET OF EIGENSTATES BY THE BETHE ANSATZ
- G.Lohöfer, D.Mayer, Institut für Theoretische Physik, E  
RWTH Aachen, D-5100 Aachen, Fed. Rep. Germany  
CORRELATION FUNCTIONS OF A TIME CONTINUOUS DISSIPATIVE SYSTEM WITH A  
STRANGE ATTRACTOR
- ZERO'S OF EXPONENTIAL SUMS AND BEST DIOPHANTINE APPROXIMATIONS

- W.Lücke, Institut für Theoretische Physik, Technische Universität Clausthal  
D-3392 Clausthal-Zellerfeld, F.R.Germany  
ON POSSIBLE RELAXATIONS OF STRICT LOCALITY IN RELATIVISTIC QUANTUM  
FIELD THEORY
- J.Mickelsson, Research Institute for Theoretical Physics, University of  
Helsinki, Siltavuorenpenger 20 C, SF-00170 Helsinki 17, Finland  
ON THE 2-COCYCLE OF A KAC-MOODY GROUP
- H.G.Muller and A.Tip, FOM-Institute for Atomic and Molecular Physics,  
Kruislaan 407, 1098 SJ Amsterdam, The Netherlands  
ATOMS IN MULTI-MODE RADIATION FIELDS
- J.Potthoff, Department of Mathematics, Nagoya University on leave of absence  
of Department of Mathematics, Technical University, Berlin  
ON THE CONNECTION OF THE WHITE-NOISE AND MALLIAVIN CALCULI
- G.A.Raggio and H.S.Zivi, Laboratorium für physikalische Chemie, ETH Zürich,  
CH-8092 Zürich, Switzerland  
ON THE SEMICLASSICAL DESCRIPTION OF N-LEVEL SYSTEMS INTERACTING WITH  
RADIATION FIELDS
- M.Requardt, Institut für Theoretische Physik der Universität Göttingen,  
Bunsenstr. 9, D-3400 Göttingen, Fed.Rep. of Germany  
A GENERAL APPROACH TO SCATTERING THEORY IN ENERGY-MOMENTUM SPACE AND  
THE (NON-) TRIVIALITY OF THE S-MATRIX
- P.Seba, Karl-Marx-Universität Sektion Mathematik, DDR-7010 Leipzig  
SPECTRAL PROPERTIES OF SCHRÖDINGER OPERATORS WITH MATRIX POTENTIALS II  
ARE EIGENVECTORS OF THE QUANTUM HAMILTONIAN ALWAYS BOUND STATES OF  
THE CORRESPONDING SYSTEMS ?
- P.Seba, Universitas Carolina Pragensis, Matematicko-Fyzikalni Fakulta, Praha  
SOME REMARKS ON THE  $\delta'$ -INTERACTION IN ONE DIMENSION
- B.Simon, Division of Physics, Mathematics and Astronomy, California Inst. of  
Technology, Pasadena, CA. 91125 USA  
THE THEORY OF SCHRÖDINGER OPERATORS: WHAT'S IT ALL ABOUT?  
LOCALIZATION IN GENERAL ONE DIMENSIONAL RANDOM SYSTEMS, I. JACOBI MATRICES
- B.Simon, address see above, and M.Taylor, Dep. of Mathematics, State Univ. of  
New York, Stony Brook, NY 11794 USA  
HARMONIC ANALYSIS ON  $SL(2, \mathbb{R})$  AND SMOOTHNESS OF THE DENSITY OF STATES IN THE  
ONE DIMENSIONAL ANDERSON MODEL
- B.Simon and T.Wolff, Div. of Physics, Mathematics and Astronomy California Inst.  
of Technology, Pasadena, CA 91125 USA  
SINGULAR CONTINUOUS SPECTRUM UNDER RANK ONE PERTURBATIONS AND LOCALIZATION  
FOR RANDOM HAMILTONIANS
- A.V.Sobolev and D.R.Yafaev, Leningrad Branch of Mathematical Institute (LOMI),  
Fontanka 27, Leningrad, 191011 USSR  
ON THE QUASI-CLASSICAL LIMIT OF THE TOTAL SCATTERING CROSS-SECTION IN  
NONRELATIVISTIC QUANTUM MECHANICS
- A.G.Shuhov, Institute for Problems of Information Transmission, USSR Academy  
of Sciences, GSP-4 Moscow 101447, and Yu.M.Suhov, Katholieke Universiteit  
Leuven, Instituut voor Theoretische Fysica, Celestijnenlaan 200 D,  
B-3030 Leuven, Belgium  
ERGODIC PROPERTIES OF GROUPS OF THE BOGOLIUBOV TRANSFORMATIONS OF CAR  
 $C^*$ -ALGEBRAS
- W.R.Schneider, Brown Boveri Research Center, CH-5405 Baden, Switzerland  
GENERALIZED ONE-SIDED STABLE DISTRIBUTIONS

B.Thaller, V.Enß, Institut für Mathematik I, Freie Universität Berlin, Arnimallee 2  
D-1000 Berlin 33, West-Germany

ASYMPTOTIC OBSERVABLES AND COULOMB SCATTERING FOR THE DIRAC EQUATION

S.Twareque Ali, Department of Mathematics, Concordia University, Montreal,  
Canada H4B 1R6, and Eduard Prugovečki, Dep. of Math., Univ. of Toronto,  
Toronto, Canada M5S 1A1

MATHEMATICAL PROBLEMS OF STOCHASTIC QUANTUM MECHANICS: HARMONIC ANALYSIS  
ON PHASE SPACE AND QUANTUM GEOMETRY

M.Wollenberg, Akademie der Wissenschaften der DDR, Karl-Weierstrass-Institut Berl  
QUANTUM FIELDS AS POINTLIKE LOCALIZED OBJECTS. II



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

## VIIIth INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS



16/25 juillet 1986  
Centre de physique théorique  
campus universitaire  
de Marseille-Luminy

Postal address:

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

Conference Committee:

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

Organizing Committee:

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

Advisory Committee:

S.Albeverio, Bochum; J.P.Antoine, Louvain-la-Neuve; H.Araki, Kyoto; J.E.Avron, Haifa; A.Böhm, Austin; B.Buchholz, Hamburg; A.Connes, Bures-sur-Yvette; H.Ezawa, Tokyo; M.Flato, Dijon; J.Fröhlich, Zürich; G.Galavotti, Rome; K.Gawedzki, Bures-sur-Yvette; J.Glimm, New York; S.Graffi, Bologna; S.W.Hawking, Cambridge; Ch.A.Hurst, Adelaide; Cl.Itzykson, Gif-sur-Yvette; G.Jona-Lasinio, Rome; D.Kastler, Marseille; J.R.Klauder, Murray Hill; H.Kunz, Lausanne; C.Lanford, Bures-sur-Yvette; J.L.Lebowitz, New Brunswick; E.Lieb, Princeton; G.Mack, Hamburg; A.Martin, Geneva; M.Moshinsky, Mexico; D.Ruelle, Bures-sur-Yvette; E.Seiler, München; B.Simon, Pasadena; Y.G.Sinai, Moscow; H.E.Stanley, Cambridge; W.Thirring, Wien; I.T.Todorov, Sofia; A.Uhlmann, Leipzig; S.R.S.Varadhan, New York; G.Velo, Bologna; R.Vilela Mendes, Lisbon; S.Weinberg, Austin; A.S.Wightman, Princeton; E.Witten, Princeton; W.Wyss, Boulder.

General speakers confirmed so far:

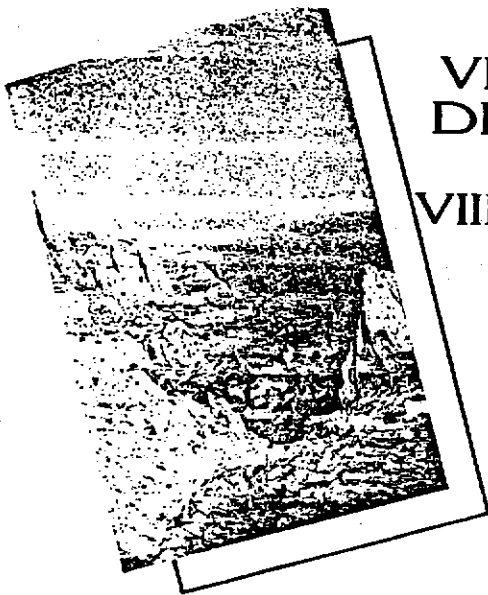
B.V.Chirikov, R.L.Dobrushin, C.Fefferman, M.Hermann, J.Lewis, E.Lieb, D.Ruelle, B.Simon, Y.A.Sinai, S.T.Yau.

List of Session Organizers confirmed so far:

J.Bellisard/J.Imbrie, J.M.Combes, G.Gallavotti, M. Jimbo, J.Lebowitz, Yu.Sukhov/J.Bricmont, J.Mess.

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

## VIIIth INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS



16/25 juillet 1986  
Centre de physique théorique  
campus universitaire  
de Marseille-Luminy

Topical Sessions planned:  
(confirmed organizers)

- Disordered Systems (J.Bellissard, J.Imbrie)
- Schrödinger Operators and Semiclassical Methods (J.M.Combes)
- Classical Field Theory (N.N.)
- Constructive QFT (G.Gallavotti)
- Anomalies and String Theory (N.N.)
- Quantum Gravity (N.N.)
- Integrable Systems and Kac-Moody Algebras (M.Jimbo)
- Stochastic Methods (N.N.)
- Algebraic Methods (D.Kastler)
- Dynamical Systems (N.N.)
- Nonequilibrium Statistical Mechanics (J.Lebowitz)
- Equilibrium Statistical Mechanics (Yu.Sukhov, J.Bricmont)
- Supersymmetry (J.Wess)
- Computational Physics (N.N.)

INTERNATIONAL SUMMER SCHOOL IN ROMANIA

Title: SYMMETRIES AND SEMICLASSICAL FEATURES OF  
NUCLEAR DYNAMICS.

Period: September - 13, 1986, Romania, Poiana Brasov

Organizers: Central Institute of Physics  
Director: Dr. A. A. Radutza

Address of the Organizing Committee:  
Dr. A. A. Radutza  
Central Institute of Physics  
Theoretical Physics Dept.  
Bucharest  
P.O.Box mg-6  
Romania

Symposium on Operator Algebras and Applications.

1<sup>st</sup> October 1986 to 31<sup>st</sup> August 1987.

*Mathematics Institute, University of Warwick, England.*

*A Symposium will be held during 1986-7 at the above place, with support from the Science and Engineering Research Council, on Operator Algebras and applications and connections with topology and geometry (K-theory, index theory, foliations, differentiable structures, braids, links) with mathematical physics (statistical mechanics and quantum field theory) and topological dynamics.*

*Expected participants include :*

H.Araki. R.J.Archbold. M.F.Atiyah. C.J.K.Batty. O.Bratteli.  
A.L.Carey. E.Christensen. N.Clarke. A.Connes. J.Cuntz.  
E.G.Effros. G.A.Elliott. U.Haagerup. D.E.Handelman. C.A.Hurst.  
V.F.R.Jones. B.E.Johnson. R.V.Kadison. G.G.Kasparov. W.Krieger.  
E.C.Lance. J.T.Lewis. G.Luke. R.Longo. G.Pedersen. M.Pimsner.  
R.J.Plymen. S.Popa. M.A.Rieffel. J.R.Ringrose. D.W.Robinson.  
J.Roe. S.Sakai. G.Sewell. A.Sinclair. G.Skandalis. E.Størmer.  
S.Stratila. R.F.Streater. M.Takesaki. J.Tomiyama. A.Verbeure.  
D.Voiculescu. A.Wassermann. S.Wassermann. J.D.M.Wright.  
F.J.Yeadon.

*Further information may be obtained from :*

D.E.Evans,  
Mathematics Institute,  
University of Warwick,  
Coventry CV4 7AL,  
England.

# INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS



IAMP NEWS BULLETIN

December 1985

## Progress Report

1. The Executive Committee decided to approve the request for support (\$ 500) of the International Conference "Selected Topics in Quantum Field Theory and Mathematical Physics" to be held in Bechyně Castle, Czechoslovakia, June 23-27, 1986. Chairman of the Organizing Committee is Jiri Niederle.
2. A General Assembly of the IAMP will be held in Marseille on July 23, 1986, at 14.30 p.m. A formal invitation together with the agenda will be mailed to all members in the spring of next year. (Pro memoria: The M $\Phi$  conference will take place in Marseille, 16 - 26 July, 1986).
3. The General Assembly will have to decide on the site of the 1989 M $\Phi$  congress. Proposals should be sent to the president of IAMP before June 1, 1986. They should include the following information:
  - Place and possible dates for conference
  - Facilities available:
    - lecture halls
    - dining facilities
    - accommodation
    - transportation
  - Plans for funding
  - The names of at least two members of a proposed local organizing committee

The budgets of the last two M $\Phi$  conferences were on the order of magnitude of US \$ 75.000 and the number of participants ranged from 320 to 400.

Konrad Osterwalder

We draw your attention once more to the fact that books or preprints to be announced in this bulletin have to be sent to one of the following addresses clearly marked "FOR IAMP NEWS BULLETIN":

Dr. John R. Klauder  
Room 1D - 370  
AT&T Bell Laboratories  
Murray Hill, NJ 07974, USA

Prof. S.T. Kuroda  
Dept. Pure and Applied Sciences  
College of General Education  
University of Tokyo  
Komaba, Meguro-ku  
Tokyo 153, Japan

Prof. Dr. Ph. Blanchard  
Universität Bielefeld  
Fakultät für Physik  
D-4800 Bielefeld 1, FRG



**Open Position**

A postdoctoral research fellowship for two years in Statistical Mechanics and related areas, starting before May 1986, is available at University College Dublin. To apply send a curriculum vitæ, a list of publications and the name of one referee to J.V. Pulé, Department of Mathematical Physics, University College Dublin, Belfield, Dublin 4, Ireland.

# JOURNAL OF MATHEMATICAL PHYSICS

PUBLISHED BY THE AMERICAN INSTITUTE OF PHYSICS

## FOR IAMP NEWS BULLETIN

We would like to bring to the attention of the members of the IAMP that all the page charges for the Journal of Mathematical Physics have been removed beginning with the 1 January 1986 issue. (Since the lead time is several months, charges are effectively removed as of now.)

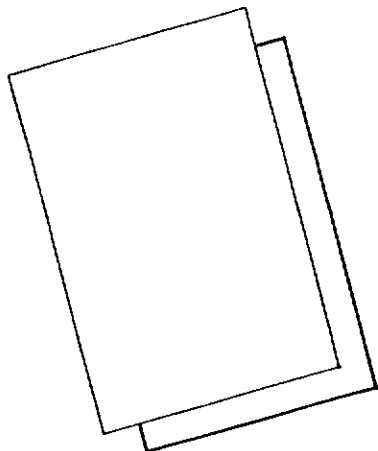
We would like to invite members of the math and physics community-- particularly those for whom page charges were a prohibitive burden--to take advantage of this long sought change and send us their manuscripts for the JMP.

L. C. Biedenharn (Duke), Editor

H. van Dam (UNC), Associate Editor

Journal of Mathematical Physics  
208C Physics Building  
Duke University  
Durham, NC 27706

LCB/jc



# VIII<sup>e</sup> CONGRES INTERNATIONAL DE PHYSIQUE MATHÉMATIQUE VIIIth INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS



16/25 juillet 1986 - 16/25 July 1986

International Association of Mathematical Physics

Centre de physique théorique campus universitaire de Marseille-Luminy

Sponsored by: Centre National de la Recherche Scientifique, Commissariat à l'Énergie Atomique, Conseil Général des Bouches-du-Rhône, Conseil Régional PACA, Direction des Recherches Etudes et Techniques, European Physical Society, Institut National de Physique Nucléaire et de Physique des Particules, International Union of Pure and Applied Physics, Mairie de Marseille, Ministère de l'Éducation Nationale, Ministère de la Recherche et de la Technologie, Ministère des Relations Extérieures, Société Mathématique de France, UNESCO, Universités d'Aix-Marseille I, II, Avignon, Nice, Toulon.  
IBM, OCE, Société Ricard.

Conference Committee: M. ATIYAH (GB), Ph. COMBE (F), G.F. DELL'ANTONIO (I), L. FADDEEV (USSR), A. JAFFE (USA), M. MEKHOUD (F), K. OSTERWALDER (CH), R. SENEOR (F), J.M. SOURIAU (F), L. STREIT (RFA), Chairman.

Organizing Committee: Ph. COMBE (F), M. MEKHOUD (F), Chairman, J.M. SOURIAU (F).

The list of General Speakers will include:

V.I. ARNOLD (USSR)\*, M. BERRY (GB), J.M. BISMUT (F), L. BRINK (S), B.V. CHIRIKOV (USSR), T. DAMOUR (F), R.L. DOBRUSHIN (USSR), C. FEFFERMAN (USA), R.P. FEYNMAN (USA)\*, V. GUILLEMIN (USA), M. HAZEWINDEL (N.L.), M. HERMAN (F), J. LEWIS (IRL), A. LIBCHABER (F)\*, E. LIEB (USA), V.P. MASLOV (USSR), A. NEVEU (F), S.P. NOVIKOV (USSR)\*, G. PARISI (I), A.N. POLYAKOV (USSR)\*, V. RIVASSEAU (F), D. RUELLE (F), A. SCHWARZ (USSR), B. SIMON (USA), Y.A. SINAI (USSR), A. SOFFER (IL), S. WEINBERG (USA)\*, S.T. YAU (USA).

\* to be confirmed.

## Topical Sessions

Anomalies, Strings, Superstrings  
Classical Field Theory  
Computational Physics  
Constructive Quantum Field Theory  
Disordered Systems  
Dynamical Systems  
Equilibrium Statistical Mechanics  
General Quantum Field Theory  
Integrable Systems and Kac-Moody Algebras  
Nonequilibrium Statistical Mechanics  
Quantum Gravity  
Schrödinger Operators and Semiclassical Methods  
Stochastic Methods  
Supersymmetry

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## GENERAL INFORMATION

Contributed papers should be sent to the Session Organizers before **MAY 15, 1986**.

Posters should be sent to Ph. COMBE and R. RODRIGUEZ (Centre de Physique Théorique, Marseille), before **JUNE 1st, 1986**.

### DEADLINE

For early registration: **JUNE 15, 1986**

For registration: **JULY 16, 1986**

### REGISTRATION FEE

For early registration: **500 F.F.**

After **JUNE 15, 1986**: **600 F.F.**

### REGISTRATION

On **Tuesday JULY 15, 1986** from 2 p.m. to 10 p.m. and on **Wednesday**

**JULY 16, 1986** from 8 a.m.

Registration form can be obtained from the Conference Secretariat (Address below).

## INFORMATIONS GENERALES

Les contributions doivent être adressées aux Organisateur de Sessions avant le **15 MAI 1986**

Les posters doivent être envoyés à Ph. COMBE et R. RODRIGUEZ (Centre de Physique Théorique, Marseille) avant le **1<sup>er</sup> JUIN 1986**

### DATES LIMITE D'INSCRIPTION

1) Tarif réduit avant le **15 JUIN 1986**

2) Tarif normal après le **16 JUILLET 1986**

### DROITS D'INSCRIPTION

1) Avant **15 JUIN 1986**: **500 F**

2) Après **15 JUIN 1986**: **600 F**

### ACCUEIL

Le **mardi 15 JUILLET 1986**, de 14 h à 22 h et le **mercredi 16 JUILLET 1986**, à partir de 8 h du matin.

From June 10 to June 13, 1986 will be held at L'Aquila (near Rome)  
a workshop on

"RECENT ADVANCES IN HAMILTONIAN SYSTEMS".

Participants include Ambrosetti, Benci, Benettin, Berestycki, Chaperon,  
Gallavotti, Girardi, Hofer, Fortunato, Matzeu, Pacella.

Time will be provided for discussions and presentation of ongoing  
research. The organizing Committee is composed of C. D'Antoni,  
S. De Gregorio, G.F. Dell'Antonio, B. D'Onofrio. Correspondence  
should be addressed to

B. D'Onofrio, Dipart. di Matematica, Università de L'Aquila,  
Via Roma 33, 67 100 L'Aquila (ITALY).

## SIXIEME RENCONTRE DE PHYSIQUE STATISTIQUE

Cher Collègue,

Nous organisons les Jeudi 23 et Vendredi 24 Janvier 1986, la Sixième Rencontre de Physique Statistique de Paris.

Elle se tiendra à l'Ecole Supérieure de Physique et Chimie Industrielles de Paris, 10 rue Vauquelin, Paris 5ème, bâtiment N, dernier étage, et nous remercions P.G. de Gennes et l'E.S.P.C.I. de nous y accueillir de nouveau cette année.

Comme les années précédentes, cette rencontre a principalement pour but de permettre aux différents courants de la physique statistique de se rencontrer et à chacun de se faire une idée des intérêts et tendances de la communauté. Nous espérons beaucoup la participation de tous les physiciens et mathématiciens dont les travaux se rapportent à:

la mécanique statistique de l'équilibre, la mécanique statistique du non-équilibre, les solides désordonnés, la turbulence et la stochasticité, les liquides, les plasmas, les polymères, les milieux aléatoires macroscopiques, les sujets physiquement ou mathématiquement reliés.

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NOTES IMPORTANTES :

*\* Il n'y aura pas d'autre annonce de cette rencontre .*

*\* Nous vous serions reconnaissants de photocopier ce texte et de le distribuer à ceux de vos collègues qui ne l'auraient pas reçu.*

La rencontre consistera principalement en de nombreuses communications courtes, de 5 à 10 minutes, selon le nombre de communications proposées, destinées à donner à chacun une idée de ce qui se fait actuellement dans les divers domaines, ainsi qu'en quatre revues sur des sujets reliés à la Physique Statistique:

H. van BEIJEREN  
(Aachen et Utrecht)

*Phase transitions in lattice gaz models far from equilibrium.*

D. GRATIAS  
(Chimie Métall., Vitry)

*Introduction aux quasi-cristaux.*

E. GUYON  
(ESPCI et Polytechnique)

*Matériaux composites et mécanique statistique.*

G. JOULIN  
(ENSMA, Poitiers)

*Chocs et détonations.*

La revue de D. GRATIAS sera suivie d'une table ronde sur les quasi-cristaux.

J.P. Hansen

*Théorie des Liquides, Université de Jussieu.*

Y. Pomeau

*Physique Théorique, C.E.N. Saclay.*

B. Souillard

*Physique Théorique, Ecole Polytechnique.*

J. Vannimenus

*Physique du solide, Ecole Normale Supérieure.*

XVIème ECOLE D'ÉTÉ DE CALCUL DES PROBABILITES

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SAINT-FLOUR (Cantal)

20 Août - 6 Septembre 1986

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CONFERENCIERS INVITES

- O.E. BARNDORFF-NIELSEN, Professeur à l'Université d'Aarhus (Danemark)  
*"Differential Geometry and Second-Order Asymptotics in Statistics"*
- Hans FOLLMER, Professeur à l'Ecole Polytechnique de Zürich (Suisse)  
*"Processus de diffusion et champs de Markov"*
- George PAPANICOLAOU, Professeur, Courant Institute of Mathematical Sciences, New-York (U.S.A.)  
*"Random Media"*

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INTERNATIONAL SUMMER SCHOOL IN ROMANIA

Title: SYMMETRIES AND SEMICLASSICAL FEATURES OF  
NUCLEAR DYNAMICS.

Period: September - 13, 1986, Romania, Poiana Brasov

Organizers: Central Institute of Physics  
Director: Dr. A. A. Radutza

Address of the Organizing Committee:  
Dr. A. A. Radutza  
Central Institute of Physics  
Theoretical Physics Dept.  
Bucharest  
P.O.Box mg-6  
Romania



Symposium on Operator Algebras and Applications.

1<sup>st</sup> October 1986 to 31<sup>st</sup> August 1987.

*Mathematics Institute, University of Warwick, England.*

*A Symposium will be held during 1986-7 at the above place, with support from the Science and Engineering Research Council, on Operator Algebras and applications and connections with topology and geometry (K-theory, index theory, foliations, differentiable structures, braids, links) with mathematical physics (statistical mechanics and quantum field theory) and topological dynamics.*

*Expected participants include :*

H.Araki, R.J.Archbold, M.F.Atiyah, C.J.K.Batty, O.Bratteli,  
A.L.Carey, E.Christensen, N.Clarke, A.Connes, J.Cuntz,  
E.G.Effros, G.A.Elliott, U.Haagerup, D.E.Handelman, C.A.Hurst,  
V.F.R.Jones, B.E.Johnson, R.V.Kadison, G.G.Kasparov, W.Krieger,  
E.C.Lance, J.T.Lewis, G.Luke, R.Longo, G.Pedersen, M.Pimsner,  
R.J.Plymen, S.Popa, M.A.Rieffel, J.R.Ringrose, D.W.Robinson,  
J.Roe, S.Sakai, G.Sewell, A.Sinclair, G.Skandalis, E.Størmer,  
S.Stratila, R.F.Streater, M.Takesaki, J.Tomiyama, A.Verbeure,  
D.Voiculescu, A.Wassermann, S.Wassermann, J.D.M.Wright,  
F.J.Yeadon.

*Further information may be obtained from :*

D.E.Evans,  
Mathematics Institute,  
University of Warwick,  
Coventry CV4 7AL,  
England.

Warwick Symposium on Operator Algebras & Applications 1986-7

O	N	D	J	F	M	A	M	J	J	A
C	O	E	A	E	A	P	A	U	U	U
T	V	C	N	B	R	R	Y	E	Y	G

H. Araki (RIMS, Kyoto)											←→
O. Bratteli (Trondheim)					←→						
L.G. Brown (Purdue)											
A.L. Carey (Adelaide)						←→					
E. Christensen (Copenhagen)										←→	
A. Connes (IHES, Paris)											
J. Cuntz (Marseille)					2 months sometime						
E.G. Effros (UCLA)											
G.A. Elliott (Copenhagen)										←→	
U. Haagerup (Odense)										←→	
D.E. Handelman (Ottawa)										←→	
N.M. Hugenholtz (Groningen)										←→	
C.A. Hurst (Adelaide)						←→					
V.F.R. Jones (Berkeley)					2 months						
R.V. Kadison (Pennsylvania)					3 months						
G.G. Kasparov (Chernoglovka)											
W. Krieger (Heidelberg)										←→	
J.T. Lewis (IAS, Dublin)					4 months sometime						
R. Longo (Rome)										←→	
G.K. Pedersen (Copenhagen)					1 month sometime or maybe longer						
M. Pimsner (INCREST, Bucharest)					3 months sometime						
S. Popa (INCREST, Bucharest)					3 months sometime						
M.A. Rieffel (Berkeley)										←→	
D.W. Robinson (Canberra)					2-3 months sometime						
S. Sakai (Nihon, Tokyo)										←→	
G. Skandalis (Paris)					1-2 months sometime						
E. Størmer (Oslo)					1 month sometime						
S. Stratila (INCREST, Bucharest)					3 months sometime						
M. Takesaki (UCLA)										←→	
J. Tomiyama (Niigata)										←→	
A. Verbeure (Leuven)										←→	
D. Voiculescu (INCREST, Bucharest)					3 months sometime						

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UNIVERSITY OF HELSINKI · DEPARTMENT OF THEORETICAL PHYSICS

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IAMP Executive Committee  
Prof. L. Streit  
Fakultät für Physik  
Universität Bielefeld  
D-4800 Bielefeld 1  
BRD

Dear Sirs,

We are organizing an "International Symposium on Topological and Geometrical Methods in Field Theory", to be held June 8 - 14, 1986, in Espoo (near Helsinki), Finland. The following scientists have already accepted our invitation to give a lecture at the meeting: L. Brink (Gothenburg), P. di Vecchia (Wuppertal), D. Friedan (Chicago), P. Goddard (Cambridge), V. Kac (MIT), U. Lindström (Stockholm), N. Manton (Cambridge), K.C. Misra (Madison), C. Nash (Maynooth), J. Niederle (Prague), N.K. Nielsen (Odense), D. Olive (London), H.-R. Petry (Bonn), A.N. Pressley (Dublin), H. Römer (Freiburg), G. Schierholz (Hamburg), G. Semenoff (Vancouver), P. Wiegmann (Moscow). The purpose of the symposium is to bring together physicists working on anomalies and string theory, as well as mathematicians working on the geometry of fibre bundles and representations of Kac-Moody algebras to discuss the following topics:

- applications of group cohomology
- quantum field theory anomalies
- recent developements in string theory
- Kac-Moody algebras and their applications in field theory.

The total number of participants is planned to be around 70. The members of the organizing committee are C. Cronström (Helsinki), J. Hietarinta (Turku), A. Kupiainen (Helsinki), J. Mickelsson, chairman (Jyväskylä), C. Montonen (Helsinki) and J. Westerholm, secretary (Helsinki).

*PREPRINTS (RECEIVED IN MURRAY HILL)*

E. B. Davies, Department of Mathematics, King's College, University of London, Strand, London and Evans M. Harrell, II, School of Mathematics, Georgia Institute of Technology, Atlanta, Georgia,  
CONFORMALLY FLAT RIEMANNIAN METRICS, SCHRODINGER OPERATORS AND SEMICLASSICAL APPROXIMATION

Charles R. Doering, Department of Physics and Center for Relativity, The University of Texas at Austin, Austin, Texas  
NONLINEAR PARABOLIC STOCHASTIC DIFFERENTIAL EQUATIONS ON  $R^{d+1}$ : EXISTENCE OF SOLUTIONS AND PHYSICAL APPLICATIONS

NONPERTURBATIVE BOUNDS ON  $\langle \phi^n \rangle$  IN CUTOFF  $(\lambda \phi^n)_d$  FIELD THEORY

Richard Arens, Department of Mathematics, UCLA, Los Angeles, California Petr Seba, Nuclear Centre, Faculty of Mathematics and Physics, Charles University, Prague, Czechoslovakia,  
THE GENERALIZED POINT INTERACTION IN ONE DIMENSION

A. L. Carey, Dept. of Mathematics, The Australian National University, Canberra, Australia, and S. N. M. Ruijsenaars, Mathematics Dept., Tubingen University, Tubingen, Germany,  
ON FERMION GAUGE GROUPS, CURRENT ALGEBRAS AND KAC-MOODY ALGEBRAS

THE GAUGE GROUP OF THE DIRAC SYSTEM

THE GAUGE INVARIANT CURRENTS OF THE MAXWELLIAN FIELD

J. T. Chayes and L. Chayes, Dept. of Mathematics and Physics, Harvard University, Cambridge, Massachusetts  
ORENSTEIN-ZERNIKE BEHAVIOR FOR SELF-AVOIDING WALKS AT ALL NONCRITICAL TEMPERATURES

D. Iagolnitzer, Service de Physique Theorique, CEN-Saclay, Gif-sur-Yvette, Cedex, France,  
IRREDUCIBILITY AND ASYMPTOTIC COMPLETENESS IN RENORMALIZABLE THEORIES: SOME REMARKS

C. Burnap, Department of Mathematics, University of North Carolina at Charlotte, Charlotte, NC 28223, and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061  
A NOTE ON THE SPECTRAL THEOREM

Charles Radin, Mathematics Department, University of Texas, Austin, TX 78712  
CRYSTALS AND QUASICRYSTALS: A LATTICE GAS MODEL

Charles Radin, Mathematics Department, University of Texas, Austin, TX 78712,  
CRYSTALS AND QUASICRYSTALS: A CONTINUUM MODEL

D. David, N. Kamran, Centre de Recherches Mathematiques, Universite de Montreal, C.P. 6128, Succ. A, Montreal, Quebec, Canada, H3C-3J7, D. Levi, Dipartimento di Fisica, Universita di Roma "La Sapienza", Piazzale A. Moro 2-00185, Roma, Italy, and P. Winternitz, Centre de Recherches Mathematiques, Universite de Montreal, C.P. 6128, Succ. A, Montreal, Quebec, Canada, H3C-3J7  
SUBALGEBRAS OF LOOP ALGEBRAS AND SYMMETRIES OF THE KADOMTSEV-PETVIASHVILI EQUATION

- D. David, N. Kamran, Centre de Recherches Mathematiques, Universite de Montreal, C.P. 6128, Succ. A, Montreal, Quebec, Canada, H3C-3J7, D. Levi, Dipartimento di Fisica, Universita degli Studi di Roma "La Sapienza", Piazaazale A. Moro 2-00185, Roma, Italy, and P. Winternitz, Centre de Recherches Mathematiques, Universite de Montreal, C.P. 6128, Succ. A, Montreal, Quebec, Canada, H3C-3J7,  
SYMMETRY REDUCTION FOR THE KADOMTSEV-PETVIASHVILI EQUATION  
USING A LOOP ALGEBRA
- B. L. Willis, Center for Transport Theory and Mathematical Physics , Virginia Polytechnic Institute and State University, Blacksburg, VA 24061  
SOLUTION OF A GENERALIZED CHANDRASEKHAR H-EQUATION
- C. Burnap and P. F. Zweifel, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061  
A COMMENT ON THE SPECTRAL THEOREM
- B. L. Willis and C. V. M. van der Mee, Center for Transport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061  
MULTIGROUP TRANSPORT EQUATIONS WITH NONDIAGONAL CROSS SECTION MATRICES
- J. T. Chayes and L. Chayes, Departments of Mathematics and Physics, Harvard University, Cambridge, MA 02138  
CRITICAL POINTS AND INTERMEDIATE PHASES ON WEDGES OF  $Z^d$
- Thadeuss Balaban , Lyman Laboratory, Harvard University, Cambridge, MA 02138  
RENORMALIZATION GROUP APPROACH TO LATTICE GAUGE FIELDS THEORIES. I: GENERATION OF EFFECTIVE ACTIONS IN A SMALL FIELDS APPROXIMATION AND A COUPLING CONSTANT RENORMALIZATION IN FOUR DIMENSIONS
- J. Fernando Perez, A. B. Coutinho and C. P. Malta, Insitituto de Fisica, Universidade de Sao Paulo  
LOGARITHMIC CORRECTIONS TO THE UNCERTAINTY PRINCIPLE AND INFINITUDE OF THE NUMBER OF BOUND STATES OF N-PARTICLE SYSTEMS
- George A. Hagedorn, Dept. of Mathematics and Center forTransport Theory and Mathematical Physics, Virginia Polytechnic Institute and State University, Blacksbrurg, VA  
HIGH ORDER CORRECTIONS TO THE TIME-DEPENDENT BORN-OPPENHEIMER APPROXIMATION. I: SMOOTH POTENTIALS
- E. Jordao Neves and J. Fernando Perez, Instituto de Fisica, Universidade de Sao Paulo  
LONG RANGE ORDER IN THE GROUND STATE OF TWO-DIMENSIONAL ANTIFERROMAGNETS
- J. Fernando Perez, L. F. Pontin, and J. A. Baeta Seggundo, Instituto de Fisica, Universidade de Sao Paulo  
ON THE EQUIVALENCE OF DILUTE ANTIFERROMAGNETS AND FERROMAGNETS IN RANDOM EXTERNAL FIELDS; CURIE-WEISS MODELS
- Charles Radin, Mathematics Department, University of Texas, Austin, TX 78712  
CORRELATIONS IN CLASSICAL GROUND STATES

PREPRINT (received in Tokyo)

- T. Ichinose, Dept. Math., Kanazawa Univ., Kanazawa, 920 Japan, and  
H. Tamura, Dept. Phys., Hokkaido Univ., Sapporo, 060 Japan  
Path integral for a relativistic spinless particle in an  
electromagnetic field.
- H. Araki and T. Matsui, Res. Inst. Math. Sci., Kyoto Univ., Kyoto,  
606 Japan  
Analyticity of ground states of the XY-model.
- H. Araki, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 606 Japan  
Analyticity of correlation functions for the two-dimensional  
Ising model.
- A. Inoue, Dept. Math., Tokyo Inst. Tech., Ohokayama, Tokyo 152 Japan  
On weak, strong and classical solutions of the Hopf equation —  
an example of F. D. E. of second order.

PREPRINTS (received in Bielefeld)

- R. Alicki, on leave of absence from Institute of Theoretical Physics and  
Astrophysics, Gdansk, Poland, and M. Fannes, Instituut voor Theoretische  
Fysica, Universiteit Leuven, B-3030 Leuven, Belgium  
ON DILATING QUANTUM DYNAMICAL SEMIGROUPS WITH CLASSICAL BROWNIAN MOTION
- M. Boiti, Laboratoire de Physique Mathématique, Université des Sciences et  
Techniques du Languedoc, Place Eugène-Bataillon, F-34060 Montpellier Cédex,  
B.G. Konopelchenko, Institute of Nuclear Physics, Novosibirsk, U.S.S.R.  
NONFORMAL RECURSION OPERATORS AND NONLINEAR INTEGRABLE EVOLUTION  
EQUATIONS
- J. Bricmont, A. El Mellouki, Institut de Physique Théorique, Université  
Catholique de Louvain, Louvain-La-Neuve, Belgium, and J. Fröhlich,  
Theoretical Physics, ETH-Hönggerberg, CH-8093 Zürich, Switzerland  
RANDOM SURFACES IN STATISTICAL MECHANICS: ROUGHENING, ROUNDING, WETTING ...
- D. Buchholz, II. Institut f. Theor. Physik, Universität Hamburg, H. Epstein,  
Inst. Hautes Etudes Scient., Bures-sur-Yvette, France  
SPIN AND STATISTICS OF QUANTUM TOPOLOGICAL CHARGES
- D. Buchholz, P. Junglas, II. Institut f. Theor. Physik, Univ. Hamburg  
LOCAL PROPERTIES OF EQUILIBRIUM STATES AND THE PARTICLE SPECTRUM  
IN QUANTUM FIELD THEORY
- D. Buchholz, II. Inst. f. Theor. Phys., Univ. Hamburg, S. Doplicher, R. Longo,  
Dip. di Matematica, Università di Roma  
ON NOETHERS THEOREM IN QUANTUM FIELD THEORY
- D. Buchholz, II. Inst. f. Theor. Phys., Univ. Hamburg, J. T. Lopuszański, Inst. of  
Theor. Physics, Univ. of Wrocław, Poland, Sz. Rabsztyn, Inst. of Mathematics,  
Silesian Techn. University, Gliwice, Poland  
NON-LOCAL CHARGES IN LOCAL QUANTUM FIELD THEORY
- Ch. Borgs and F. Nill, Max-Planck-Inst. f. Phys. u. Astrophysik  
- Werner Heisenberg Institut für Physik, D-8000 München FRG  
GRIBOV COPIES AND ABSENCE OF SPONTANEOUS SYMMETRY BREAKING IN  
COMPACT  $U(1)$  LATTICE HIGGS MODELS

- J.Burzlaff, School of Theoretical Physics, Dublin Institute for Adv.Studies,  
10 Burlington Road, Dublin 4, Ireland  
STATICS AND DYNAMICS OF CLASSICAL YANG-MILLS-HIGGS SYSTEMS: SOME RECENT  
DEVELOPMENTS
- J.Burzlaff, address see above, and Niall O'Murchadha, Physics Department,Univ.  
College, Cork, Ireland  
GLOBAL EXISTENCE OF TIME-DEPENDENT YANG-MILLS-HIGGS MONOPOLES
- J.T.Chayes, L. Chayes, Institut des Hautes Etudes Scientifiques,  
F-91440 Bures-sur-Yvette, France, and C.M.Newman, Inst.des Hautes Etudes Sci.,  
F-91440 Bures-sur-Yvette and Dept.of Mathem.,Univ.of Arizona, Tucson,  
Arizona 85721, USA  
BERNOULLI PERCOLATION ABOVE THRESHOLD: AN INVASION PERCOLATION ANALYSIS
- F.Constantinescu and U.Scharffenberger, Inst.f.Angewandte Mathematik, Univ.Frankfurt  
D-6000 Frankfurt am Main, FRG  
BOREL TRANSFORM, RESURGENCE AND THE DENSITY OF STATES: LATTICE SCHRÖDINGER  
OPERATORS WITH EXPONENTIAL DISORDER
- G.F.De Angelis, Dep.di Fisica, Univ. di Salerno, I-84100 Salerno, Italy,  
and INFN, Sezione di Napoli  
A ROUTE TO STOCHASTIC MECHANICS
- G.F.De Angelis, D. de Falco, G.Di Genova, Dip.di Fisica, Univ. di Salerno,  
I-84100 Salerno, Italy  
THE "EUCLIDEAN" APPROACH TO QUANTUM FIELDS IN NON FLAT SPACE-TIME  
QUANTUM FIELDS ON A GRAVITATIONAL BACKGROUND FROM RANDOM FIELDS ON  
RIEMANNIAN MANIFOLDS
- F.Delyon and D.Petritis, Centre de Physique Théorique Ecole Polytechnique  
F-91128 Palaiseau Cedex, France  
ABSENCE OF LOCALIZATION IN A CLASS OF SCHRÖDINGER OPERATORS WITH  
QUASIPERIODIC POTENTIAL
- P.Devillard, F.Dunlop and B.Souillard, Centre de Physique Théorique Ecole Poly-  
technique, F-91128 Palaiseau, France  
LOCALIZATION OF GRAVITY WAVES ON A CHANNEL WITH A RANDOM BOTTOM
- P.Devillard and B.Souillard, address see above  
POLYNOMIALY DECAYING TRANSMISSION FOR THE NON-LINEAR SCHRÖDINGER  
EQUATION IN A RANDOM MEDIUM
- H.Epstein, Institut des Hautes Etudes Scientifiques 35, route de Chartres  
F-91440 - Bures-sur-Yvette (France)  
NEW PROOFS OF THE EXISTENCE OF THE FEIGENBAUM FUNCTIONS
- P.Exner, Joint Institute for Nuclear Research, Dubna USSR  
OPEN QUANTUM SYSTEMS AND FEYNMAN INTEGRALS: SOME PROBLEMS
- F.Fidaleo, Dip. di Matematica, Università di Roma "La Sapienza"  
ON THE LOCAL IMPLEMENTATIONS OF GAUGE SYMMETRIES IN LOCAL QUANTUM THEORY
- S.Giler, P.Kosinski,J.Rembielinski, Inst. of Physics, University of Lodz,  
P.Maslanka, Inst. of Mathematics, University of Lodz, Poland  
ON  $SO(p,q)$  PURE SPINORS
- H.Grosse, Inst.f.Theor.Physik, Univ.Wien, Boltzmanngasse 5, A-1090 Wien,Austria  
K.R.Ito, Dept. of Mathematics, College of Liberal Arts, Kyoto University  
Kyoto 606, Japan, Y.Moon Park, Dept. of Mathematics, Yonsei University,  
Seoul 120, Korea  
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