Communications in Mathematical Physics

Volume 50 1976

Chief Editor J. Glimm, New York, N.Y.

Editorial Board
H. Araki, Kyoto
G. Gallavotti, Rome
R. Geroch, Chicago, Ill.
R. Haag, Hamburg
W. Hunziker, Zürich
A. Jaffe, Cambridge, Mass.
J. L. Lebowitz, New York, N.Y.
J. Moser, New York, N.Y.
R. Stora, Marseille

Advisory Board
K. Hepp, Zürich
R. Jost, Zürich
M. C. Polivanov, Moscow
D. Ruelle, Bures-sur-Yvette
A. S. Wightman, Princeton, N.J.

Springer-Verlag
Berlin Heidelberg New York

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is transferred to the publisher.

Alle Rechte, einschließlich das der Übersetzung in fremde Sprachen und das der fotomechanischen Wiedergabe oder einer sonstigen Vervielfältigung, auch in Mikroform, vorbehalten. Jedoch wird gewerblichen Unternehmen für den innerbetrieblichen Gebrauch nach Maßgabe des zwischen dem Börsenverein des Deutschen Buchhandels e. V. und dem Bundesverband der Deutschen Industrie abgeschlossenen Rahmenabkommens die Anfertigung einer fotomechanischen Vervielfältigung gestattet. Wenn für diese Zeitschrift kein Pauschalabkommen mit dem Verlag vereinbart worden ist, ist eine Wertmarke im Betrage von DM 0,40 pro Seite zu verwenden. *Der Verlag läßt diese Beträge den Autorenverbänden zufließen.*

Springer-Verlag Berlin Heidelberg New York

Printers: Brühlsche Universitätsdruckerei, Gießen

Printed in Germany – © by Springer-Verlag Berlin Heidelberg 1976

Contents

Bratteli, O., Robinson, D. W.: Greens Functions, Hamiltonians and Modular Automorphisms . 133
Brill, D., Flaherty, F.: Isolated Maximal Surfaces in Spacetime 157
Bros, J., Buchholz, D., Glaser, V.: Constants of Motion in Local Field Theory (Coleman's Theorem Revisited) 11
Buchholz, D., s. Bros, J., et al. 11
Cantoni, V.: Enveloping Subspaces and Superposition of States 241
Evans, D. E., Lewis, J. T.: Dilations of Dynamical Semi-Groups 219
Exner, P.: Remark on the Energy Spectrum of a Decaying System 1
Flaherty, F., s. Brill, D. 157
Fröhlich, J., Simon, B., Spencer, T.: Infrared Bounds, Phase Transitions and Continuous Symmetry Breaking 79
Glaser, V., s. Bros, J., et al. 11
Grgin, E., Petersen, A.: Algebraic Implications of Composability of Physical Systems 177
Hénon, M.: A Two-dimensional Mapping with a Strange Attractor 69
Israel, R. B.: High-Temperature Analyticity in Classical Lattice Systems 245
Lebowitz, J. L., Presutti, E.: Statistical Mechanics of Systems of Unbounded Spins 195
Lewis, J. T., s. Evans, D. E. 219
Lüscher, M.: Operator Product Expansions on the Vacuum in Conformal Quantum Field Theory in Two Spacetime Dimensions 23
Lundberg, L.-E.: Quasi-free "Second Quantization" 103
Parthasarathy, K. R., Schmidt, K.: A New Method for Constructing Factorisable Representations for Current Groups and Current Algebras 167
Persides, S.: Global Properties of Radial Wave Functions in Schwarzschild's Space-Time. II. The Irregular Singular Point 229
Petersen, A., s. Grgin, E. 177
Presutti, E., s. Lebowitz, J. L. 195
Requardt, M.: Symmetry Conservation and Integrals over Local Charge Densities in Quantum Field Theory 259
Robinson, D. W.: Bose-Einstein Condensation with Attractive Boundary Conditions 53
Robinson, D. W., s. Bratteli, O. 133
Ruelle, D.: Probability Estimates for Continuous Spin Systems 189
Schmidt, K., s. Parthasarathy, K. R. 167
Schrader, R.: A Possible Constructive Approach to φ_4^4 III 97
Simon, B., s. Fröhlich, J., et al. 79
Spencer, T., s. Fröhlich, J., et al. 79
Suhov, Yu. M.: Random Point Processes and DLR Equations 113
Wakita, H.: Integration of the Tomonaga-Schwinger Equation 61
Author Index to Vols 1—50 (1965—1976) *265*

Indexed in Current Contents

A 20 414 D

Communications in Mathematical Physics

Volume 50 Number 1 1976

Chief Editor J. Glimm, New York, N. Y.

Editorial Board
H. Araki, Kyoto
G. Gallavotti, Rome
R. Geroch, Chicago, Ill.
R. Haag, Hamburg
W. Hunziker, Zürich
A. Jaffe, Cambridge, Mass.
J. L. Lebowitz, New York, N. Y.
J. Moser, New York, N. Y.
R. Stora, Marseille

Advisory Board
K. Hepp, Zürich
R. Jost, Zürich
M. C. Polivanov, Moscow
D. Ruelle, Bures-sur-Yvette
A. S. Wightman, Princeton, N. J.

Springer-Verlag
Berlin Heidelberg New York

Commun. math. Phys. - CMPHAY 50 (1) 1-96 (1976) 15. IX. 1976

Communications in Mathematical Physics

It is a fundamental condition that submitted manuscripts have not been, and will not simultaneously be submitted or published elsewhere. With the acceptance of a manuscript for publication, the publishers acquire full and exclusive copyright for all languages and countries. Unless special permission has been granted by the publishers, no photographic reproductions, microform or any other reproductions of a similar nature may be made of the journal, of individual contributions contained therein or of extracts therefrom.

100 offprints of each article will be supplied to the author free-of-charge and additional copies may be obtained at cost price if ordered before the issue goes to press.

Manuscripts may be sent to:

Prof. H. Araki, Research Institute for Mathematical Sciences, Kyoto University, Kyoto 606, Japan	*Mathematical methods (Functional analysis, operator algebra and group theory, with direct relevance to physics)*
Prof. G. Gallavotti, Istituto Matematico dell' Università, Piazzale delle Scienze, I—00185 Roma, Italy (send registered mail)	*Equilibrium statistical mechanics (Thermodynamic functions, phase transitions, equilibrium states, exactly soluble models)*
Prof. R. Geroch, E. Fermi Institute, University of Chicago, 933 East 56 Street, Chicago, Ill. 60637, USA	*General relativity*
Prof. J. Glimm, The Rockefeller University, 1230 York Avenue, New York, N.Y. 10021, USA	*Chief Editor*
Prof. R. Haag, II. Institut für Theoretische Physik, Luruper Chaussee 149, D—2000 Hamburg 50, Federal Republic of Germany	*General structure of quantum field theory and foundations of quantum mechanics*
Prof. W. Hunziker, Theoretische Physik, E.T.H. Zürich, Hönggerberg, CH—8049 Zürich, Switzerland	*Classical and quantum mechanics of finitely many degrees of freedom*
Prof. A. Jaffe, Lyman Laboratory of Physics, Harvard University, Cambridge, Mass. 02138, USA	*Constructive quantum field theory*
Prof. J. L. Lebowitz, Belfer Graduate School of Science, Yeshiva University, New York, N. Y. 10033, USA	*Nonequilibrium statistical mechanics (Time development of infinite systems, ergodic theory, transport theory, random processes, dissipative phenomena)*
Prof. J. Moser, New York University, Courant Institute of Mathematical Sciences, 251 Mercer Street, New York, N. Y. 10012, USA	*Dynamical systems (Differential equations and their application to physical systems)*
Prof. R. Stora, Centre National de la Recherche Scientifique, Centre de Physique Théorique, 31, chemin J. Aiguier, F—13274 Marseille, Cedex 2, France	*Lagrangian quantum field theory*

In order to avoid delay in publication this journal appears in loose numbers which can be subsequently assembled in volumes.

Subscription Information
Volumes 46—51 (3 issues each) will appear in 1976. The publisher reserves the right to issue additional volumes during the calendar year. Information about obtaining back volumes and microform editions available upon request.

All Countries (Except North America). Subscription rate: DM 888,—, plus postage and handling. Orders can either be placed with your bookdealer or sent directly to: Springer-Verlag, Heidelberger Platz 3, D–1000 Berlin 33.

North America. Subscription rate: $ 372.40, including postage and handling. Subscriptions are entered with prepayment only. Orders should be addressed to: Springer-Verlag New York Inc., 175 Fifth Avenue, New York, N.Y. 10010.

Springer-Verlag

Journal Production Dept. I
Postfach 105280
D–6900 Heidelberg 1
Telephone (06221) 487-1
Telex 04–61690

Heidelberger Platz 3
D–1000 Berlin 33
Telephone (030) 822001
Telex 01–83319

175 Fifth Avenue
New York, N.Y. 10010
Telephone (212) 673-2660
Telex 23-2235