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Program of the 47th Statistical Mechanics Meeting

Department of Mathematics
Rutgers University
May 13 and 14, 1982

The last semiannual Statistical Mechanics Meeting was held on May 13th and 14th. The next meeting is scheduled for December 16th and 17th.

As usual these titles are informal and, in many cases, there is only one speaker listed although the work may have been done with collaborators. Also, the addresses are incomplete. Anyone who is interested in communicating with a speaker and who requires a more complete address may obtain it by writing to:

Dr. Joel L. Lebowitz
Department of Mathematics, Hill Center
Rutgers University
New Brunswick, New Jersey 08903

A Functional Central Limit Theorem for a Dynamical System
Detlef Dürr, Rutgers University

Remarks on the Central Limit Theorem for Weakly Dependent Random Variables
Sheldon Goldstein, Rutgers University

A Nonequilibrium Steady State with Long Range Static Correlations
Herbert Spohn, Rutgers University

Duality in Stochastic Processes
Alladi Ramakrishnan, Madras University

The Spectral Decomposition for a Class of Linear Transport Operators
C. Cercignani and V. Protopopescu, Yale University

Nonanalytical Response to an External Field
J. Piasecki, University of Warsaw

An Improvement of the Griffiths–Hurst–Sherman Inequality for the Ising Ferromagnet
Ross Graham, Princeton University

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Simplicity and Monotonicity of Lee-Yang Zeros
Hidetoshi Nishimori and Robert B. Griffiths, Carnegie-Mellon University

Infinite Differentiability for One-Dimensional Spin System with Long Range Random Interaction
Brunello Tirozzi, University of Rome and Rutgers University

The Thermodynamic Limit and the Replica Method for Short Range Random Systems
J. L. van Hemmen and R. G. Palmer, Duke University

The Two-Dimensional One-Component Plasma with a Logarithmic Interaction
Bernard Jancovici, Université de Paris XI

Boundary Conditions and Mermin's Argument for the 2–D Jellium
Danilo Merlini, Ruhr Universität

Some Results about Clustering
C. M. Newman, University of Arizona

Decay of Correlations in the One-Dimensional Ising Model with $J_{ij} = |i-j|^{-2}$
John Z. Imbrie, Harvard University

Generic Triviality of Phase Diagrams
Robert Israel, Rutgers University

Infrared Catastrophe at $T < T_c$ for $n < 1$ in the n–Component $(\vec{\phi}^2)^2$–Field Theory
P. D. Gujrati, University of Chicago

The Ising Model in Non-Integer Dimension
George A. Baker, III, Los Alamos National Laboratory

A Construction Generating Infinite Sequences of Lattice Animals
Ron Dickman, The University of Texas at Austin

A New Scaling Law in Stochastic Geometry
R. Dickman and W. C. Schieve, The University of Texas at Austin

The Perimeter of Percolation Clusters as a Random Walk
Robert M. Ziff

Characterization of Chaotic States in Duffing's Equation
S. T. Chui and K. B. Ma, University of Delaware

A One-Dimensional Map Model for Diffusive Dynamics in Systems with Translational Symmetry
M. Schell, S. Fraser, and R. Kapral, University of Toronto

Pattern Emergence and Selection in Crystal Growth
Michel Kerszberg, Harvard University

Exact Electron Eigenstates in an Incommensurate Potential
D. R. Grempel, Shmuel Fishman, and R. E. Prange, University of Maryland

Chaos, Quantum Recurrences and Anderson Localization
Shmuel Fishman, D. R. Grempel, and R. E. Prange, University of Maryland

Exact Results in Localization
Bernard Souillard and Herve Kunz, Ecole Polytechnique, Lausanne

Universality in the Kosterlitz–Thouless Transition
John Z. Imbrie and C. Eugene Wayne, Harvard University

A Bound on the Renormalized Coupling Constant in Four Dimensions
Michael Aizenman, Princeton University

Higgs Model
T. Balaban, Harvard University

The Break-Up of Invariant 2-Tori in Dissipative Dynamical Systems
Scott J. Shenker and Leo P. Kadanoff, University of Chicago, *and* Mitchell J. Feigenbaum, *Los Alamos National Laboratory*

Exact Solutions to the Feigenbaum Renormalization Group Equations for Intermittency
B. Hu and J. Rudnick, University of Houston

Attractors in Crisis
Celso Grebogi, J. A. Yorke, and E. Ott, University of Maryland

Existence of a Fixed Point of the Doubling Transformation for Area Preserving Maps of the Plane
Hans Koch, Harvard University

Onset of Time-Dependence and the Transition to Chaos in Rayleigh–Bénard Convection
R. W. Walden, Bell Laboratories

Perturbations of Integrable and Non-Integrable Hamiltonian Systems
Giovanni Gallavotti, University of Rome and Princeton University

Chaos, Bifurcation, Scaling, and Fractals
Benoit Mandelbrot, IBM Thomas J. Watson Research Center

Dynamical Models for Chaotic Physical Phenomena
Paul C. Martin, Harvard University

Round Table on Stochastic Perturbation of Deterministic Systems
Bernardo Huberman, Xerox, *Pierre Hohenberg*, Bell Laboratories, *Mitchell Feigenbaum*, Los Alamos National Laboratory, *and John Greene*, Chair, Princeton University

Cell Cluster Calculations of the Surface Entropy of Harmonic fcc and hcp Crystals
Robert H. Kincaid and Dale A. Huckaby, Texas Christian University

An Inclusion–Exclusion Calculation of the Dipole-Dipole Energy of Cubic and Hexagonal Ice
Robert H. Kincaid, Chris A. Hamilton, and Dale A. Huckaby, Texas Christian University

Results on the 5 and 6 State Clock Model
Jan Tobochnik, Rutgers University

Kosterlitz–Thouless Transitions in Randomly Dilute Two-Dimensional Models
Sara A. Solla, Cornell University, *and Eberhard K. Riedel*, University of Washington

Spin–Glass Behavior in Frustrated Ising Models with Chaotic Renormalization–Group Trajectories
Susan R. McKay, A. Nihat Berker, and Scott Kirkpatrick, Massachusetts Institute of Technology

Critical Phenomena with Long Range Correlated Disorder
Abel Weinrib, Harvard University

Search for Topologically Stable Textures in Heisenberg Spin-Glasses
Christopher L. Henley, Harvard University

Breakdown of Linear Response Theory in Spin Glass
Ronald Fisch, Washington University

First- and Second-Order Phase Transitions with Random Rields at Low Temperatures
D. Andelman, Massachusetts Institute of Technology

Nematic–Smectic A Transition with Partially Quenched Director Fluctuations
Thomas C. Halsey and David R. Nelson, Harvard University

On the Concensus Construction of an Evolutionary Tree
James McGuire, University of Florida, *and Colin Thompson*, University of Australia

Monte Carlo Simulation of Very Large Systems
Dietrich H. Stauffer, Boston University

Exact Results on Two-Dimensional Ising Crystals
Royce Zia, Virginia Polytechnic Institute and State University

The Effect of an Irrelevant Variable on Surface Tension
Bharat B. Pant and David M. Jasnow, University of Pittsburgh

Intrinsic Structure of the Critical Liquid–Gas Interface
M. Robert and C. Stuart, Cornell University

A Link Between Wetting and Surface Criticality
Hisao Nakanishi, Cornell University

Equilibrium Theory of Non-Uniform Fluids
Jerome Percus, Courant Institute

Nonequilibrium Statistical Mechanics of Non-Uniform Fluids
E. G. D. Cohen, Rockefeller University

Large Fluctuations and Transitions for Nonequilibrium Steady States
E. Ben-Jacob, D. J. Bergman, B. J. Matkowsky, and Z. Schuss, Ohio State University and Tel-Aviv University

On $1/f$ Noise and Other Long Tailed Distributions
Michael F. Shlesinger and E. W. Montroll, University of Maryland
Random Walk Model for $1/f$ Noise
Mark Nelkin and Alan Harrison, Cornell University
Diffusion as a Function of Particle Size and Mass
A. Masters, Yale University
Solvent Effects in Branched Polymers, Percolation and the Potts Model
Antonio Coniglio, Boston University
Corrections to Scaling for Percolation
A. Margolina, H. E. Stanley, D. Stauffer, Z. Djordjevic, Boston University
Percolation and Site Decoration
G. Ord and S. G. Whittington, University of Toronto
Flory Theory for Directed Percolation and Directed Lattice Animals
S. Redner and A. Coniglio, Boston University
Network Communication as a Percolation
F. Y. Wu, Northeastern University
Phase Boundaries of the Isotropic Helical Potts Model on a Square Lattice
M. Kardar, Massachusetts Institute of Technology
Landau–Lifshitz Analysis for Stepped Surfaces
B. Clements and P. Kleban, University of Maine
Effect of Fluid Rotational Degrees of Freedom on Brownian Motion
L. E. Reichl, University of Texas
Space–Time Coarse Graining in Nonequilibrium Open Systems
M. Tokuyama, Michigan State University
Time-Dependent Correlations for the Quantum Van der Walls Ferromagnet
Dalcio K. Dacol, Princeton University
The Quantum Kinetic Equation and the Two-Time Resolvent Method
Tomio Petrosky and W. C. Schieve, University of Texas at Austin
Nonlinear Reciprocity Relations
C. Garrod and J. P. Hurley, University of California, Davis
Relaxation of a Gravitating Chain
Bruce N. Miller, Harold L. Wright, and W. E. Stein, Texas Christian University
An Exact, Closed-Form Memory Function
O'Dae Kwon, Cornell University
Dynamics of Supercooled Fluids
A. C. Brown, C. Unger, and W. Klein, Boston University
Diffusion Limited Aggregation in D-Dimension
T. A. Witten and L. M. Sander, Exxon Research and Engineering

A Correction to Scaling Exponent for Fluids
F. Zhang, Virginia Polytechnic Institute and State University

Torque Algorithms: The Permanent Multipole and Induced Dipole Vector Contributions in a Set of Charge Distributions
E. S. Campbell and M. Mezei, New York University

Molecular Fluids at a Wall—Some Preliminary Perturbation Theory Results
W. R. Smith and I. Nezbeda, University of Guelph

Correlation Functions for Nematic Fluids
J. Perram, State University of New York at Stony Brook, *and J.* Lebowitz, *Rutgers University*

Analytic Expression for Second Virial Coefficient of Hard Dumbbells
Michael Wertheim, Rutgers University

Simulations of Interacting Lattice Mapping Model in an Electric Field
Sheldon Katz, Lafayette College and Rutgers University

Charge Fluctuations and Screening for Coulomb Systems
L. Blum, University of Puerto Rico, *C. Gruber*, Ecole Polytechnic Federale, *J. Lebowitz*, Rutgers University, *and P. Martin*, Ecole Polytechnic Federale