Journal of Statistical Physics, Vol. 45, Nos. 5/6, 1986

Program of the 55th Statistical Mechanics Meeting

Department of Mathematics, Rutgers University, May 15 and 16, 1986

Dear Reader,

Here are the titles presented at the last semiannual Statistical Mechanics Meeting. 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 requires a more complete address may obtain it by writing to me.

The next meeting is tentatively scheduled for December 18 and 19, 1986. In addition to the talks, the program for these meetings also has a "positions wanted" and "positions available" section. If you are interested in receiving the full program of the December meeting, please send me a self-addressed envelope.

Joel L. Lebowitz

Department of Mathematics, Hill Center
Rutgers University
New Brunswick, New Jersey

Inconsistencies in the ε-Expansion of $O(n)$ Model for $n < 1$
P. D. Gujrati, University of Akron

Hard Sphere Equation of State Near a Spherical Hard Wall
T. Vladimiroff, V. P. Carignan, and *A. K. Macpherson*, Lehigh University

Hard Spheres in the Isobaric Isoenthalpic Ensemble
Julian Talbot, Rutgers University

On the Effect of Repulsive Interactions on Bose–Einstein Condensation
Ph. de Smedt, Rutgers University

Uniqueness of Gibbs State at All Temperatures for Perturbations of Some

0022-4715/86/1200-1115$05.00/0

Spin Systems with One Fundamental Bond
Roberto Fernandez, Rutgers University
Electron Spin Resonance in Disordered Metals
Subir Sachdev, A.T.T. Bell Laboratories
A General Theory of Inhomogeneous Systems
Stuart Trugman, Princeton University
Propagators for General Nonlinear Equations
D. G. Cacuci, R. B. Perez, and *V. Protopopescu*, Oak Ridge National Laboratory
Statistical Mechanical Theory of the Molecular Diffusion in Crystals
S. Fujita and J. Neugebauer, SUNY at Buffalo
Motion of a Test Particle in a Nonuniform One-Dimensional System
Sheldon Goldstein, Rutgers University
Proofs with Accurate Constants for Small-Denominator Problems
R. de la Llave and D. Rana, Princeton University
A Computer-Assisted Proof of the Existence of a Renormalization Group Fixed Point
Hans Koch and *Peter Wittwer*, Rutgers University
Large Deviations for Gibbs States
Stefano Olla, Rutgers University
Large Deviation in Stochastic Time Evolutions
Roberto Schonmann, Rutgers University
Anomalous Dynamics in Hierarchical Spin Models
E. Domany, A. Aharony, W. Kinzel, and S. Teitler, Weizmann Institute of Science
An Extraordinarily Efficient Monte Carlo Algorithm for the Self-Avoiding Walk
Neal Madras and *Alan D. Sokal*, Courant Institute, NYU
Ergodicity Problems for Self-Avoiding Walk Monte Carlo
Neal Madras and Alan Sokal, Courant Institute, NYU
Study of the Theta Point by Enumeration of Self-Avoiding Walks on the Triangular Lattice
Vladimir Privman, Clarkson University
Microscopic Selection Principle for Diffusion-Reaction Equation
Paola Calderoni, Rutgers University
A Test of Shape Selection in Directional Solidification
John Bechhoefer and Albert Libchaber, The James Franck and Enrico Fermi Institutes, University of Chicago
Nonlinear Pattern Formation in Explosive Crystal Growth
Douglas A. Kurtze, Clarkson University
Viscous Fingers and DLA Are Not the Same
M. Murat and *A. Aharony*, Tel Aviv University and MIT

A Family of Exponents for LaPlace's Equation Near a Polymer
M. E. Cates and T. A. Witten, Exxon Research and Engineering Company
Correlations in a Two-Component Log-Gas
P. J. Forrester, SUNY at Stony Brook
Z-Invariant Nonintersecting String Model
J. H. H. Perk, SUNY at Stony Brook, and *F. Y. Wu*, Northeastern University
Some Exact Results for the Electric Correlation Functions of the 8-Vertex Model
Lee-Fen Ko and Barry M. McCoy, SUNY at Stony Brook
Some New Results in Percolation
L. Chayes and J. T. Chayes, Cornell University
A Mean Field Spin Glass for the Rest of Us
J. T. Chayes, L. Chayes, and J. P. Sethna, Cornell University, and D. J. Thouless, University of Washington
New Results in Percolation
Charles Newman, University of Arizona
Electrical Breakdown in Random Systems
Paul Leath, Rutgers University
Domain Wall Interactions and Spatially Modulated Phases
Michael E. Fisher, Cornell University
Finite-Size Effects at First-Order Transitions
D. P. Landau, University of Georgia
Roughening of Stepped Metal Surfaces
Eberhard K. Riedel, University of Washington
Antiferromagnetic Chains and Kac–Moody Algebras
Ian Affleck, Princeton University
Chaos in Atomic Physics
Roderick V. Jensen, Yale University

Review Talks

Statistical Aspects of Quantum Transport in Small Systems
Joseph Imry, Yale University
New Simulation Methods for Gauge Field Theories
John Kogut, University of Illinois at Urbana-Champaign

Roundtable on "Quantum Monte Carlo"

James Gubernatis, Malvin Kalos, Roy Pollock, Claudio Rebbi, Kevin Schmidt; John Klauder, Chair
Asymptotic Behavior of Diffusion in Locally Perturbed Potentials
Kenneth Golden, Rutgers University

Large-Order Estimates for Ground-State Energy Perturbation Series
Stephen Breen, University of Southern California

Exactly Soluble Models of Many Interacting Fermions in Three Dimensions
Basil A. Orfanopoulos and Jerome K. Percus, New York University

Simulation of Chaotic Behavior with Finite-State Machines
Philippe M. Binder and Roderick V. Jensen, Yale University

A Derivation of the Quantum Langevin Equation for a Mechanical Model
Carlangelo Liverani, Rutgers University

Equation of State for Chain Molecules
Ronald Dickman and Carol K. Hall, North Carolina State University

Finite-Size Effects in Spherical Models
Surjit Singh and R. K. Pathria, University of Waterloo

Classical Statistical Mechanics at High Dimensionality
H. L. Frisch, SUNY at Albany, and *J. K. Percus*, Courant Institute, NYU

Crossover Effects in the Critical Properties of Lattice Models of Micellar Solutions
A. Robledo, Universidad Nacional Autonoma de Mexico

The Harmonic Ising Model in an External Field
Christian Maes, Rutgers University

Mechanical Models for Chemical Reactions
Yves Elskens, Université Libre de Bruxelles

Non-Random Fragmentation and the Irreversible Dimerization Problem
Robert M. Ziff, University of Michigan

Anderson Localization in the Continuum
Ronald Fisch, Washington University

An Algebraic Extension of Star Triangle Relations
James B. McGuire, Florida Atlantic University

A New Solvable Q Species Hard-Squares Model
T. M. Haas and J. H. H. Perk, SUNY at Stony Brook

Exact Solution of a Three-Component System on the Honeycomb Lattice
Dale A. Huckaby and Masato Shinmi, Texas Christian University

Enantiomeric Phase Separation in a Lattice Gas Model: Guggenheim Approximation
D. A. Huckaby, M. Shinmi, M. Ausloos, and P. Clippe, Texas Christian University

Q-Dependent Susceptibility in 2D Ising Model: Critical Point Values and Logarithmic Singularities Away from T_c
X. P. Kong, H. Au-Yang, and J. H. H. Perk, SUNY at Stony Brook

Correlations As Ratios of Determinants in Baxter's Z-Invariant

Inhomogeneous Ising Model; Sylvester's Theorem on Wronskians and Toda Lattice
H. Au-Yang and *J. H. H. Perk*, SUNY at Stony Brook

(a) New Results Supporting Finite Size Scaling in the 3-D Ising Model

(b) Fractal Dimension of DLA As a Function of the Density of the Aggregating Particles
Gyan Bhanot, Florida State University

Rigidity Percolation: A New Geometry for Percolation
A. R. Day, A.-M. Tremblay, and R. R. Tremblay, Université de Sherbrooke

Diffusion Noise of Fractal Networks and Percolation Clusters
B. Fourcade and A.-M. S. Tremblay, Université de Sherbrooke

Absence of Order in Some Quenched Dilute Magnets Above P_c
Joan Adler, R. G. Palmer, and H. Meyer, Duke University

Fourier Acceleration on Fractals—Beating Critical Slowing Down
G. G. Batrouni, *A. Hansen*, and M. Nelkin, Cornell University

Sharpness of the Phase Transition in Percolation Models
M. Aizenman and *D. Barsky*, Rutgers University

Midi-Reviews

Phase Transitions in Dynamical Systems
E. Domany, Weizmann Institute of Science

Classical Chaos and Quantal Spectra
M. Berry, University of Bristol

Review Talks

Some Recent Developments in Conformal Invariance
John Cardy, University of California, Santa Barbara

Plenitude of Exponents Describing Physics on Fractal Networks
Amnon Aharony, Tel-Aviv University

Mini-Review

Fractal Measures in the Random Resistor Network
A. B. Harris, University of Pennsylvania