Program of the 69th Statistical Mechanics Meeting

Department of Mathematics, Rutgers University,
May 6 and 7, 1993

Dear Reader,

Here are the titles of the talks 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 contacting me by electronic mail. My e-mail address is: lebowitz@math.rutgers.edu.

If you are interested in receiving the full program of these meetings, you may write to me by e-mail or at the address below, in which case please send me a self-addressed envelope.

The next meeting, the 70th, is scheduled for 15–17 December 1993.

Joel L. Lebowitz
Center for Mathematical Sciences Research
Rutgers University
Hill Center, Busch Campus
New Brunswick, New Jersey 08903

Review Talks

New Methods for the Analysis of the Localization Transition
    M. Aizenman, Princeton
Quasicrystals and Penrose-Like Tilings
    C. Radin, Texas

Inherent Structures in Liquids and Solids
    F. H. Stillinger, Bell
Hysteresis and Hierarchies: Dynamics of the Zero-Temperature Random-
Field Ising Model
    J. Sethna, Cornell
Remarks on the Roughness of Growing Surfaces and Related Issues
    C. Newman, Courant
Transition Rate Theory in Systems with Nonconservative Forces
    D. Stein, Arizona
The Propagation and Decay of Turbulence in Helium II
    N. Goldenfeld, Illinois
Interfacial Waves, Patterns, and Statistics
    J. Gollub, Haverford and Penn
Microstructure and Macroscopic Behavior of Random Heterogeneous
Media: A Unified Approach
    S. Torquato, Princeton
Broken Supersymmetry in Self-Avoiding Random Walks
    S. Golowich, Harvard
Negative Temperature States in Two-Dimensional Turbulence
    G. Eyink, Illinois
Loop Equation in Hydrodynamics
    S. Migdal, Princeton
The Theory of Turbulence in Two Dimensions
    S. Polyakov, Princeton

Informal Session on Turbulence
    B. Shraiman, Bell, and Y. Sinai, Princeton
    K. Sreenivasan, Yale, and N. Zabusky, Rutgers
    M. Nelkin, NYU, CCNY; Chair

Short Talks

Confinement Constraints on Quantum Fields in $1 + 1$ Dimensions
    James McGuire, Florida Atlantic
A New Construction of ϕ^4 in Three Dimensions
    Jon Dimock, SUNY, Buffalo, and Tom Hurd, McMaster
Long-Range Order in a Simple Model of Interacting Fermions
    P. Lemberger, Princeton, and N. Macris, EPFL
Localization of Flux Lines by Correlated Disorder in Superconductors
    I. Lyuksyutov and L.-H. Tang, Cologne
Zero-Temperature Attenuation: Itinerant vs. Localized Spin Systems
    A. E. Meyerovich and K. A. Musaelian, Rhode Island

Spin Dynamics in Highly Polarized Helium Mixtures
    A. E. Meyerovich and K. A. Musaelian, Rhode Island
Many-Parameter Variational Wavefunctions for Small Lennard-Jones Clusters
    A. Mushinski and M. P. Nightingale, Rhode Island
Dynamical Spin Correlation Functions of Quantum XXZ Models Evaluated by the Recursion Method
    M. Boehm, G. Mueller, J. Stolze, V. S. Viswanath, and S. Zhang, Rhode Island
Fermion vs. Boson Quantum Statistics and Complex Statistics in Fractional Dimensions: SPD
Bose–Einstein Condensention of Neural Networks—Optimizing Optimization Problem Optimally: SPD Magnetic Phase Transitions in Enbrittling Nuclear Power Plants: TAT
    E. Siegal, Massachusetts
Twisted Line Liquids and the Landau–Peierls Instability
    R. D. Kamien, IAS, Princeton, and T. Lubensky, Pennsylvania
One-Dimensional Ising Model and Penrose Tiling
    H.-C. Jeong and P. J. Steinhardt, Pennsylvania
Universality in Generalized Frenkel–Kontorova Models
    B. Hu, Houston
Interaction, Disorder, and Commensurability in One and Near One Dimensions
    E. B. Kolomeisky, Kentucky
Nonintegrability for Some Two-Degrees-of-Freedom Hamiltonian Systems via a Scattering Problem
    C. Grotta Ragazzo, Sao Paulo, Brazil, and Courant
Series Expansions without Diagrams
    G. Bhanot, M. Creutz, I. Horvath, J. Lacki, and J. Weckel, Princeton
Existence of Psuedogaps in the Spectrum of Periodic Dielectrics
    A. Figotin, North Carolina at Charlotte
Lifshitz Law for Two-Dimensional Droplets at Zero Temperature: A Microscopic Stefan Problem
    L. Chayes and G. Swindle, UCLA
Crystalline and Qusicrystalline Capillary-Wave States
    P. Alstrom, B. Christiansen, and M. T. Levinsen, Niels Bohr Institute, Copenhagen
Nucleation at the Onset of Vortex Turbulence
    P. Alstrom and T. Bohrm, Niels Bohr Institute, Copenhagen, and G. Huber, California at Berkeley
Nonlinear PDEs and RG
    A. Kupiainen, Rutgers, and J. Bricmont, Louvain, Belgium

Numerical Study of Dynamical Phase Transition
    S. A. Orszag and Y. H. Qian, Princeton
Ginzburg–Landau Model for Intermittent Pipe Flows
    P. Alstrom and D. Stassinopoulos, Niels Bohr Institute, Copenhagen
Self-Organization of Intermittent Activity in Interface Dynamics
    M. H. Jensen and K. Sneppen, Niels Bohr Institute, Copenhagen
Topological Correlations in Cellular Structures and Planar Graph Theory
    C. Godreche and I. Kostov, Saclay, and I. Yekutieli, Yale and Saclay
Sequence Effects on Phase Separation in Homopolymer/Copolymer Melts
    S. T. Milner and P. D. Olmsted, Exxon, Annandale
Generalized Korteweg Equations for Phase Separation in Binary Gas–
Liquid Systems
    P. H. E. Meijer, Catholic University of America, Washington, D. C.
Restricted Curvature Model
    J. M. Kim and S. D. Sarma, Maryland
Reactions with Nonuniversal Spreading Dynamics
    R. Dickman and I. Jensen, CUNY
Ordering Kinetics in CuAu Revisted
    B. Chakraborty, Brandeis
Crystal Evolution through Collective Random Walk in a Nutrient Matrix
    B. K. Johnson and R. F. Sekerka, Carnegie-Mellon
β-Relaxation and Activated Hopping Processes at the Glass Transition
    A. Latz, Maryland, M. Fuchs, S. Hildebrand, and W. Gotze, Munich
Transport Equation for Multistate Particles in Systems with Traps
    A. E. Meyerovich and S. B. Stepaniants, Rhode Island
Almost Second-Order Phase Transitions: The Local Potential Approxima-
tion of the Renormalization Group
    G. Zumbach, Harvard
Cubic Models with Random Uniaxial Anisotropy
    R. Fisch, Washington
Generalized Renormalization Group Equation for System of Arbitrary
Symmetry
    A. A. Lisyansky and D. Nicolaides, CUNY, Queens
Repulsive Potentials, Clumps, and Glasses: Simulation
    I. Clejan, Boston Univ, H. Gould, Clark, W. Klein, Boston Univ,
    A. Melchuk, Clark, and R. Ramos, Boston Univ, Massachusetts
Repulsive Potentials, Clumps, and Glasses: Theory
    I. Clejan, Boston Univ, H. Gould, Clark, W. Klein, Boston Univ,
    A. Melchuk, Clark, and R. Ramos, Boston Univ, Massachusetts
Structure in the Early Stages of Continuous Ordering
    N. Gross, W. Klein, and K. Ludwig, Boston Univ

Slider Block Models, Spinodal Instabilities, and Earthquakes
   J. Ross, W. Klein, and G. Narkounskia, Boston Univ, and J. Rundle,
   Lvermore Labs
Rotational Symmetry and Its Breaking in Vortex Gases
   S. Chanillo and M. Kiessling, Rutgers
Perturbation Theory for Macro-Dynamic Equations
   E. Averbukh, Computer Sciences Corp. and, Yeshiva, and Y. Brodsky,
   Adelphi
Contact Process on a Tree: Critical Behavior
   C. Wu, Penn State
Theory of the One-Dimensional Forest Fire Model
   M. Paczuski and P. Bak, Brookhaven National Labs
Phase Separation in a 1-d Diffusive Lattice Gas with Short-Range Attraction
   D. Jacobs, Utrecht
Renormalization of Diffusion Constant and Mie Resonances
   D. Livdan, CUNY, Queens
Characterization of Island Growth in Cu on Cu(001)
   G. Barkema, Cornell, O. Biham, Syracuse, M. Breeman, Cornell,
   D. O. Boerma, Groningen, and G. Vidali, Syracuse
Hydrogen Recombination on Interstellar Dust Grains
   J.-S. Lin and G. Vidali, Syracuse
Oxygen Ordering Phenomena in YBaCuO Studied by Monte Carlo
Simulation
   T. Fiig, Riso, Denmark, J. V. Andersen, INPG, France, N. H.
   Andersen, Riso, Denmark, P. A. Lindgaard, Riso, Denmark, O. G.
   Mouritsen, Denmark, and H. F. Poulsen, HASYLAB, Germany
A Large-N Expansion for 4-Dimensional Oriented Manifolds in Random
Media
   L. Balents and D. S. Fisher, Harvard
Dynamics of Interface Depinning in Random Media
   T. Nattermann, S. Stepanov, and L.-H. Tang, Cambridge
Transport in Arrays of Quantum Dots
   A. A. Middleton and N. S. Wingreen, NEC, Princeton
The Effects of Focusing and Caustics on Transition Rates in Systems
without Detailed Balance
   R. Maier and D. Stein, Arizona
Symbolic Kinetic Equation for a Chaotic Attractor
   A. B. Rechester and R. B. White, Insa, Boston
Phase Diagram and Gauge Transformation of Gauge Glasses
   Y. Ozeki, Tokyo Institute of Technology
Semiflexible Polymers in the Presence of Topological Constraints
   A. L. Kholodenko, Clemson

Symmetry of Lyapunian Spectrum
    A. Kaganovich, Rockefeller
Critical Exponents, Hyperscaling, and Universal Amplitude Ratios for
Two- and Three-Dimensional Self-Avoiding Walks
    Bin Li, NYU, N. Madras, York, Canada, and A. D. Sokal, NYU
Static Scaling Behavior of High-Molecular-Weight Polymers in Dilute
Solution: A Reexamination
    A. Sokal, NYU
Exact Solution of a Vertex Model for Flux Lines and Directed Polymers
in Three Dimensions
    H. Y. Huang and F. Y. Wu, Northeastern
Temperature Correlations of Quantum Spins
    A. R. Its, A. G. Izerin, V. Korepin, and N. A. Slavnov IPT, SUNY,
    Stony Brook
Finite Temperature Excitations of the Supersymmetric t–J Model
    E. Williams, SUNY, Stony Brook
Free Energy of a Piece of Pie
    P. Kleban, Maine