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Program of the 73rd Statistical Mechanics Meeting

Department of Mathematics
May 11–12, 1995

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 or contacting me by electronic mail: lebowitz@math.rutgers.edu.

The next program, the 74th, is scheduled for Sunday to Tuesday, December 17–19, 1995.

Joel L. Lebowitz

Review Talks

Step Dynamics and the Equilibration of Critical Surfaces
P. Duxbury, Michigan State

Statistical Mechanics for Metastable Matter
F. Stillinger, Bell Labs

Entropy, Kinetics and Hydrodynamic Limits
E. Carlen, Georgia Tech

Non-Equilibrium Statistical Mechanics and the Semiclassical Limit of Nonlinear Fields
D. Levermore, Arizona

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Kolmogorov Turbulence and Anomalous Scaling in a Random-Force-Driven 1D Burgers Equation
V. Yakhot, Princeton
Universality in Turbulence: The Case of Passive Scalar
A. Kupiainen, Rutgers/Helsinki
Duality: From Ising Model to Strings
Ed Witten, IAS
The Role of Time in Cortical Information Processing
L. van Hemmen, TU München
Stochastic Ratchets: Theory and Experiments
C. R. Doering, Clarkson/Los Alamos
Stochastic Dynamics of Microtubules
H. Flyvbjerg, Juelich
Fluctuation of DNA in the Test Tube and in the Cell
J. F. Marko, Rockefeller
Effects of Base Sequence and Protein Binding on the Shape of Double Helical DNA
W. Olson, Rutgers
Theoretical Approaches to a Complex Fluid and their Results
M. Schick, Washington U.
Charge Frustrated Ising Model of Complex Fluid Assembly, Bicontinuity and Interfaces
D. Chandler, Berkeley
Real-Space Structure in Off-Critical Phase Separating Polymer Blends
W. White, Bell
Step Motion on Crystal Surfaces: Patterns and Instabilities
D. Kandel, Harvard
Using Optical Tweezers to Study Biological Motors
S. Block, Princeton
The Geometry of Critical Percolation and Conformal Invariance
M. Aizenman, Princeton
Corner Spontaneous Magnetization
D. B. Abraham, Oxford
About Coulomb Systems
G. Stell, SUNY
The Probability Distribution for the Percolation Threshold in a Large System
L. V. Berlyand, Penn State
Tails in Harnesses
A. Toom, Texas
Round Table on Physical and Computational Problems of DNA Sequencing

Participants include: Craig Benham, Mt. Sinai; Mike Noordewier, Rutgers; Gene Stanley, Boston U.; and Michael Zhang, Cold Spring Harbor

Discussion on Human Rights and the Statistical Physics Conference in China with IFCSS President Luo Ning

Short Communications

Spatial Organization in the Reaction $A + B \rightarrow$ inert for Particles with a Drift
S. A. Janowsky, University of Texas

Exact Solutions of Anisotropic Diffusion-Limited Reactions with Coagulation and Annihilation
V. Privman, A. Cadilhe, and M. L. Glasser, Clarkson University

Multiparticle Single-Species Reactions with Spatial Anisotropy
V. Privman, E. Burgos, and M. D. Grynberg, Clarkson University and CNEA, Argentina

Life and Death at the Edge of a Windy Cliff
P. Krapivsky and S. Redner, Boston University

Survival of a Random-Force Driven Particle in a Box
A. Drory, Boston University

Annihilation of Charged Particles
I. Ispolatov and P. Krapivsky, Boston University

Catalysis on Dirty Surfaces
L. Frachebourg, P. Krapivsky, and S. Redner, Boston University

Instability of a Driven Interface in a Periodic Potential
E. B. Kolomeisky and T. Curcic, Cornell University, and J. P. Straley, University of Kentucky

Phase Diagram of Multi-Component Widom–Rowlinson Lattice Model
L. Samaj, NYU

Hyperscaling in Compact Directed Percolation
R. Dickman, CUNY, and A. Y. Tretyakov, Tohoku University

Dynamic Critical Behavior of a Multigrid Monte Carlo Algorithm for Two-Dimensional N-Vector Models
T. Mendes and A. Sokal, NYU, and A. Pelissetto, Pisa

Anisotropic Finite-Size Scaling Analysis of the Standard Two-Dimensional Driven Diffusive System
J.-S. Wang, National University of Singapore

Chromosome Mapping: Data Analysis in Stochastic Spin Notation
C. T. Falk, NY Blood Center, and H. Falk, CCNY/CUNY

DNA Sequencing and Localization
T. Hwa, SUNY at Stony Brook, and M. Lässig, Jülich
The Relevance of the Order Parameter in Hard Sphere Systems
M. Rintoul and S. Torquato, Princeton University
Recent Rigorous Results for the Square-Well Kinetic Equation
J. Powelczak, California State University at Northridge
Cascade and Equilibrium in Shell Models of Turbulence
P. D. Ditlevsen, University of Copenhagen
The Fractal Dimension of a Contour Loop on a Rough Interface
J. Kondev and C. L. Henley, Cornell
A Scaling Theory of Bifurcations in the Symmetric Weak-Noise Escape Problem
R. S. Maier and D. L. Stein, University of Arizona
The Role of Restrictions on Reduced Density Matrices
J. Sebold and J. Percus, NYU
Interlayer Vortices and Edge Dislocations in High-T_c Superconductors
A. B. Kuklov, A. Krakovsky, and J. L. Birman, NYU
How Dipole Forces Affect Spin Wave Fluctuations in 2D XY Magnet
A. Kashuba, Texas A & M University
Conformal Field Theory and Hyperbolic Geometry
P. Kleban, IAS and U. Maine
Topological Bethe Ansatz
J. Mcguire, Florida Atlantic University
Stationary Shear Flow Driven by Maxwell Demons
K. Chernov, Alabama, and J. L. Lebowitz, Rutgers
Burgers' Turbulence: Some Recent Results
W. A. Woyczynski, S. Molchanov, P. Surgailis, and Y. Hu, Case Western University
Relaxational Dynamics of a Ferromagnetic Particle in Suspension: Theory and Experiments
M. C. Miguel, University of Barcelona
Stress Tensor of Inhomogeneous Liquid–Vapor States: A Non-Local Model
V. Romero-Rochin, UNAM, Mexico
Domain Growth in Segregating 2D Binary Fluids
S. Bastea and J. L. Lebowitz, Rutgers
Phase Segregation Kinetics in Externally Stressed Alloys
C. Laberge, Rutgers; P. Fratzl, Vienna; and J. L. Lebowitz, Rutgers
Ordering Accompanied by Structural Transition in Binary Alloys
L. Gu, B. Chakraborty, Brandeis; P. Garrido, Granada; and M. Phani and J. Lebowitz, Rutgers

The Morphology of Grafted Micelles Surrounding a Pore
E. Zhulina and N. A. Gross, University of Pittsburgh
Interface of Ising Model in a Slab
A. Mazel, Rutgers
Exact Density Functional for Continuum 1D Nearest Neighbor Interactions
J. Percus, NYU
Connections between Disorder and Randomness
G. Cwilich, Yeshiva University
Complex-Temperature Singularities in 2D Ising Models
V. Matveev and R. Shrock, SUNY at Stony Brook
Universality Class of a Coupled 2D Ising Model
R. C. Brower and Y. Shen, Boston University, and K. Orginos and C.-I. Tan, Brown University
Thermodynamic Renormalization Group
H. Matsuoka, Illinois State University
The Density–Density Correlation Function in Debye–Hueckel Theory
B. P. Lee and M. E. Fisher, University of Maryland
Two-Dimensional Coulomb Gas for Higher Densities: Extended KT Flow Equations
X.-J. Li, M. E. Fisher, and Y. Levin, University of Maryland
Ferromagnetism and Nagaoka Instability in Coupled Hubbard Chains
A. N. Kocharian and G. R. Reich, Union College