

BELFER GRADUATE SCHOOL OF SCIENCE-YESHIVA UNIVERSITY
30th STATISTICAL MECHANICS MEETING
WEDNESDAY, DECEMBER 12, 1973

The continued popularity of these meetings, as evidenced by the number of speakers today gives support to the concept underlying their organization: The inquiry into the infinite variety of macroscopic phenomena has a unity despite the multitude of techniques used in studying them. The works of Lars Onsager are a superb manifestation of this idea, and it being his seventieth birthday, this meeting is affectionately dedicated to him.

Since we have so many speakers, it is obvious, that we cannot hope to obtain details of one's work. What is possible to get across in five minutes (the average time per speaker) is idea behind the work and the results obtained. Let's try and be both brief and informative.

SHORT TALKS

TITLE

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| 1. Elliott Lieb-MIT | The Classical Limit of Quantum Spin Systems. |
| 2. Bertrand I. Halperin-Bell Labs. | First-Order Phase Transitions for the Charged Superfluid, Superconductor, and Smectic-A Liquid Crystal. |
| 3. David Chandler- Illinois | Hard Core Interactions and a Microscopic Theory of the Isotropic Fluid - Nematic Liquid Crystal Phase Transition. |
| 4. P.M. Platzman, Bell Labs. | Mean Field Theory of Melting. |
| 5. Kao-Shien Liu-NYU | Simulations of Liquid-Vapour Phase Separation of Lennard-Jones Systems. |
| 6. Howard Reiss, UCLA | Radial Distribution Functions and Fluid Structure from Scaled Particle Theory. |
| 7. Michael Wertheim, Alberta | Dielectric Constant and Free Energy of Polar Fluids. |
| 8. E.G.D. Cohen-Rockefeller | Tricritical Behavior of Fermi-Bose Hard Sphere Mixtures. |
| 9. Geoffrey Golner-Duke | Tricritical Points and Wings in the Baker-Dys Hierarchical Model. |
| 10. David R. Nelson-Cornell | Internal Variables in the Renormalization Group Theory of Tricritical Points. |

VERY SHORT TALKS

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| 11. John F. Nagle-C-MU | Recent Applications of Exactly Solvable Model Ferroelectrics, Biomembranes and Polymers. |
| 12. Oscar Lanford-Berkeley | Derivation of the Boltzmann Equation from the BBGKY Hierarchy. |
| 13. H. Flaschka, U. of Arizona | Exact Integrals for the Toda Lattice. |
| 14. Arthur Hobson-U. of Arkansas | Ergodic Properties of a Billiard Ball in a Polygon. |