



## Stochastic Models for Many-Body Systems: II. Finite Systems and Statistical Non-Equilibrium (Classic Reprint)

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By Robert H Kraichnan

Forgotten Books, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Excerpt from Stochastic Models for Many-Body Systems: II. Finite Systems and Statistical Non-Equilibrium In a preceding report [AFOSR - 1157, July 961] some model Hamiltonians were proposed for quantum-mechanical many-body systems with pair forces. For infinite systems in thermal equilibrium, they led to temperature-domain propagator expansions which were formally summable and expressible by closed equations. These expansions were identical with infinite subclasses of terms from the propagator expansion for the true many-body problem. The two principal models corresponded to ring- and ladder-diagram summations from the true propagator expansion, augmented by infinite classes of self-energy corrections. The model Hamiltonians were called stochastic because they contained parameters whose phases were fixed by random choices. In the present paper, more general models are formulated which yield formally summable propagator expansions for finite systems. The analysis is extended to correlation and Green's functions defined for nonequilibrium ensembles. The nonequilibrium treatment is developed in the Heisenberg representation in such a way that unlinked diagrams do not arise. A basic convergence question associated with the formal closed equations for the model propagators...

### Reviews

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