Lecture on large deviations

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1. Definition of the probabilities of large deviations from the mean of stochastic varibles obeying the law of large numbers. Such probabilities are often exponentially small and their sizes are to first order measured by the rate- or entropy-function.
2. It follows that the most probable values of variables in a composite system are characterized by maximum entropy principles. This explains the structure of equilibrium thermodynamics.
3. The analysis of the Curie-Weiss model of a phase transition is an instructive example of the use of L.D.-methods.

References

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