

Exercises in Statistical Mechanics

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This exercises pool is intended for a graduate course in “statistical mechanics”. Some of the problems are original, while other were assembled from various undocumented sources. In particular some problems originate from exams that were written by B. Horovitz (BGU), S. Fishman (Technion), and D. Cohen (BGU).

===== [Exercise 2173]

Polarization of classical polar molecules

Find the polarization $\tilde{P}(\xi)$ and the electric susceptibility χ for gas of N classical molecules with dipole moment μ , The system's temperature is T .