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Phys 343 project

Distributions in statistical mechanics

In this project, you shall discuss the most fundamental mathematical tool for describing a statistical mechanical system, and it is the statistical distribution functions. They are functions which describe how microstates of a statistical system are distributed on its macrostates. Like the occupation number n for a quantum statistical system describes the distribution of particles onto different energy levels.
The summery of your study should include

1. Mathematical statistical distributions
2. The importance of statistical distributions in physics
3. The most used statistical distributions MB, BE and FD.

You should include the references in your project

- Hillery, M. O. S. M., O'Connell, R. F., Scully, M. O., & Wigner, E. P. (1984). Distribution functions in physics: fundamentals. Physics reports, 106(3), 121-167.
- Niven, R. K. (2005). Exact maxwell–boltzmann, bose–einstein and fermi–dirac statistics. Physics Letters A, 342(4), 286-293.
- F. Mandl (1971) Statistical Physics

Best Regards,

Dr Salwa Alsaleh