

Dr Salwa Alsaleh
Dept. of Physics and Astronomey
College of Science- King Saud University
Riyadh 11451- Saudi Arabia
☎ +966 (11) 80 52458
✉ salwams@ksu.edu.sa
🏠 fac.ksu.edu.sa/salwams

Phys 343 project

Bose Einstien condensation

Bosons can accumulate in a single energy level in a multi-level system. Because they does not obey Pauli exclusion principle.

This accumulation produces what is known as Bose-Einstein condensation. A very important phenomena in modern physics, where the macroscopic system shows quantum effects, like a very large atom ! Liquid Helium shows such condensation property at near absolute zero temperature In this project, you will study this interesting phenomena from statistical mechanics from the references given and summarise it in the following points:

1. Bose-Einstein statistics
2. Overview of Bose-Einstein condensate
3. Importance in physical systems, superfluids and particle physics

You should include the references in your project

- HW Ketterle Bose-Einstein condensate , McGraw-Hill Encyclopedia of Science & Technology.
- Townsend, C., Ketterle, W., & Stringari, S. (1997). Bose-Einstein condensation. *Physics World*, 10(3), 29.
- F. Mandl (1971) *Statistical Physics*

Best Regards,

Dr Salwa Alsaleh