

Statistics of population difference for cold bosons and fermions in a double well potential

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Abstract

Fluctuations in the atom number difference between two halves of harmonically trapped Bose gas were studied recently. Analytical expression for variance of number difference was found for non-interacting atoms in the grand canonical ensemble. However no splitting potential was taken into account. We present solution for both bosonic and fermionic atoms, when splitting potential idealized as a delta function is considered.

References

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