

## Condensation in 2D: from nonuniversal effects to bubble traps

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Functional integration of a nonrelativistic scalar field is an elegant formulation of Quantum Field Theory to study the Thermodynamics of Bose-Einstein condensates, made with dilute ultracold atomic gases.

In a beyond mean field approach one can derive the static and dynamical properties of a condensate confined in different geometries and with D-spatial dimensions.

In particular, we have applied this method recently to calculate the condensate fraction and the superfluid one of a dilute Bose-Einstein condensate in three and in two dimensions.

In another work, we have studied the condensation of an interacting Bose gas confined on a thin spherical shell, a work triggered by the forthcoming experiments with bubble traps in microgravity settings.

### Summary

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