
New Hohenberg-Kohn theorems

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Résumé

The Hohenberg-Kohn theorem (1964) states that at equilibrium, the ground state one-body density contains the information of the external electric potential. This implies that all physical quantities are functionals of this simple and measurable density, and justifies Density functional theory. We will explore its extensions to other kinds of external fields : which ground state reduced quantities contain the information of the interactions, of the magnetic field, of the temperature, and of non-local potentials ?

Mots-Clés: HohenbergKohn theorems, Density functional theory

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