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**GARRIGUE LOUIS**, Université Paris-Dauphine

*The Hohenberg-Kohn theorem*

Density functional theory is a very active field of research, and is of great importance in today's science. It is founded by the Hohenberg-Kohn theorem, a striking result stating that all the information of a quantum mechanical system is contained in its ground-state one-body density only. We provide a first rigorous proof of this theorem in a physically relevant setting. It turns out that this reduces to prove a strong unique continuation property for many-body Schrodinger operators that we showed using recent Carleman estimates.