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Autore	Gessner Manuel
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- Background -- Local Detection of Correlations -- From Local Operations to Collective Dephasing: Behavior of Correlations -- Quantum Phase Transition in a Family of Quantum Magnets -- Multidimensional Nonlinear Spectroscopy of Controllable Quantum Systems -- Open Quantum Systems of Identical Particles -- Summary and Conclusions. .
Sommario/riassunto	This thesis sheds new light on the fascinating properties of composite quantum systems. Quantum systems of different sizes, ranging from small bipartite systems to large many-body ensembles, can be studied with the help of modern quantum optical experiments. These experiments make it possible to observe a broad variety of striking features, including nonclassical correlations, complex dynamics and quantum phase transitions. By adopting the complementary

perspectives of quantum information theory, quantum chemistry and many-body theory, the thesis develops new methods for the efficient characterization and description of interacting, composite quantum systems.
