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Nota di bibliografia	Includes bibliographical references (p. 170-177) and index.
Nota di contenuto	""3.2 Ensembles of quantum systems""""3.3 Entanglement""; ""3.4 Open systems""; ""3.5 Measurement and preparation""; ""3.6 The boundary problem""; ""3.7 Quantum expectation and quantum variance""; ""4 Quantum state diffusion""; ""4.1 Master equations""; ""4.2 QSD equations from master equations""; ""4.3 Examples""; ""4.4 Projectors""; ""4.5 Linear unravelling""; ""4.6 Other fluctuations""; ""4.7 QSD, jumps and Newtonian dynamics""; ""4.8 The circuit analogy""; ""5 Localization""; ""5.1 Measurement and classical motion""; ""5.2 Quantum variance and covariance, ensemble localization"" ""5.3 Quantum measurement""""5.4 Dissipation""; ""5.5 Channels and statistical properties""; ""5.6 Localization theorems""; ""5.7 Proof of the dispersion entropy theorem""; ""5.8 Discussion""; ""6 Numerical methods and examples""; ""6.1 Methods""; ""6.2 Localization and the moving basis""; ""6.3 Dissipative quantum chaos""; ""6.4 Second-harmonic generation""; ""6.5 Continuous Stern-Gerlach""; ""6.6 Noise in quantum computers""; ""6.7 How to write a QSD program""; ""7 Quantum foundations""; ""7.1 Introduction""; ""7.2 Matter waves are real""; ""7.3 Niels Bohr and Charles Darwin"" ""9.3 Quantum expectations and other properties of densities""""9.4 Probability distributions and means""; ""9.5 Elementary density diffusion""; ""9.6 Generalization""; ""9.7 Density entropy decreases"";

	""9.8 Localization for wide open systems""; ""9.9 Localization of a particle in a medium""; ""9.10 Discussion""; ""10 Semiclassical theory and linear dynamics""; ""10.1 Classical equations for open systems""; ""10.2 Semiclassical theory of ensembles""; ""10.3 Semiclassical theory of pure states""; ""10.4 Localization regime""; ""10.5 Linear phase space transformations and squeezed states"" ""10.6 Linear dynamics and the linear approximation""
Sommario/riassunto	This is the first book devoted to quantum state diffusion (QSD) and its applications to open quantum systems and to the foundations of quantum mechanics. Recent experiments with detailed control over individual quantum systems have changed the face of quantum physics. These systems include atoms at the low temperatures attained by the 1997 Nobel Laureates, they include entangled photons in cavities, and they include the quantum systems used in new and future technologies like quantum cryptography and quantum computation. The experiments have led to a revival of interest in the foundations of