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random winds, and the sex life of moths""; ""van Hove singularities and
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superpoisson fluctuations""; ""Spectral twinkling for mixed systems"";
""Chaos, dissipation and quantal Brownian motion""; ""Introduction"";
""Definition of the problem""; ""Restricted versions of the problem""
"""History"" of the problem"""Fluctuations: intensity and correlation
time""; ""Fluctuations: time-dependent Hamiltonian""; ""Actual,
parametric and reduced energy changes""; ""The sudden and the
adiabatic approximations""; ""Ballistic and diffusive energy spreading"";
""Energy spreading and dissipation""; ""Application to the ""piston""
example""; ""The route to stochastic behavior""; ""The transition
probability kernel""; ""Limitations on quantal-classical correspondence
(QCC)""; ""The parametric evolution of P(n|m)""; ""The time evolution of
P_t(n|m)""; ""Linear response theory""
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simplified RMT picture""; ""The perturbative core-tail spreading
profile""; ""An improved perturbation theory""; ""Consequences of the
improved perturbative treatment""; ""The quantum-mechanical sudden
approximation""; ""The quantum-mechanical adiabatic approximation"";
""Classical Brownian motion""; ""The DLD Hamiltonian""; ""The white-
noise approximation (WNA)""; ""Consequences of the WNA""; ""The
reduced propagator""; ""Master equation""; ""Brownian motion and
dephasing""; ""The open question""
""Quantum chaos in extended systems: Spreading wave packets and
avoided band crossings""

Sommario/riassunto	The rapid progress of the research field of quantum chaos and its applications called for a book that keeps students abreast of the new developments and at the same time provides a solid basis in subjects which form the canon of the field. This book discusses the following topics: Spectral statistics and their semiclassical interpretation in terms of the Gutzwiller trace formula, Quantum chaos and its applications in mesoscopic physics, Spectral statistics and conductance fluctuations and Quantum chaos in systems with many degrees of freedom. The book connects and continues past and present ac