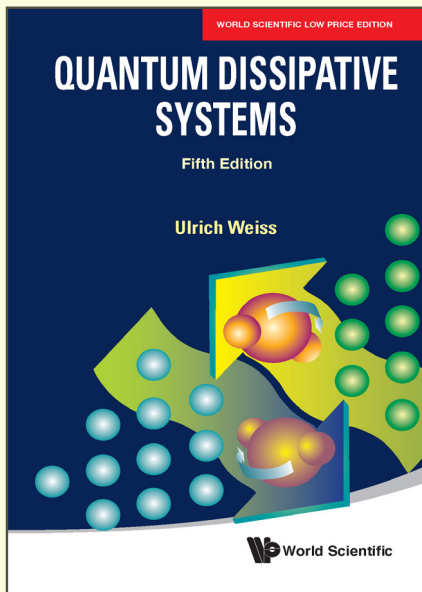


# Quantum Dissipative Systems

## 5<sup>th</sup> Edition



By **Ulrich Weiss**  
(University of Stuttgart, Germany)

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### ABOUT THE BOOK

This comprehensive textbook provides the fundamental concepts and methods of dissipative quantum mechanics and related issues in condensed matter physics starting from first principles. It deals with the phenomena and theory of decoherence, relaxation and dissipation in quantum mechanics that arise from the random exchange of energy with the environment. Major theoretical advances in combination with stunning experimental achievements and the arising perspective for quantum computing have brightened the field and brought it to the attention of the general community in natural sciences. Expertise in dissipative quantum mechanics is by now beneficial in a broad sphere.

This book — originally published in 1992 and republished as enlarged and updated second, third and fourth edition in 1999, 2008, and 2012 — dives even deeper into the fundamental concepts, methods and applications of quantum dissipation. The fifth edition provides a self-contained and updated account of the quantum mechanics and quantum statistics of open systems. The subject matter of the book has been thoroughly revised to better comply with the needs of newcomers and the demands of the advanced readership. Most of the chapters are rewritten to enhance clarity and topicality. Four new chapters covering recent developments in the field have been added. There are about 600 references. This book is intended for use by advanced undergraduate and graduate students in physics, and for researchers active in the field. They will find the monograph as a rich and stimulating source.

### READERSHIP

Advanced undergraduate and graduate students; researchers in quantum statistical and condensed matter physics, in quantum/classical mechanics, in quantum information and quantum state engineering, in quantum optics, and in Bose-condensed systems.

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## ABOUT THE AUTHOR

**Ulrich Weiss** has been Professor of Physics at the University of Stuttgart since 1975. As a guest scientist or visiting professor, he spent extended periods of time at various research institutions in USA, France, and Italy. He has given numerous contributions to nuclear physics, elementary particle physics, quantum-statistical physics, and condensed matter physics. He retired in 2010.

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