

Blurb

QUANTUM DISSIPATIVE SYSTEMS

Fourth Edition

Starting from first principles, this book introduces the fundamental concepts and methods of dissipative quantum mechanics and explores the related phenomena in condensed matter systems. Major experimental achievements in cooperation with theoretical advances have brightened the field and brought it to the attention of the general community in natural sciences. Nowadays, working knowledge of dissipative quantum mechanics is an essential tool for many physicists. This book – originally published in 1990 and republished in 1999 and 2008 as enlarged second and third editions – delves significantly deeper than ever before into the fundamental concepts, methods and applications of quantum dissipative systems.

This fourth edition provides a self-contained account of the quantum mechanics of open systems and offers important new material including the most recent developments. The subject matter has been expanded by about fifteen percent. Many chapters are completely rewritten to better meet both the needs of newcomers to the field and the requests of the advanced readership. Two chapters have been added that account for recent progress in the field. This book should be accessible to all graduate students in physics. Researchers will find this a rich and stimulating source.

About the author

Ulrich Weiss has been Professor of Physics at the University of Stuttgart since 1975. As 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 and quantum dissipative physics, and condensed matter physics.