

Consistent Quantum Theory, 391 pages, 2003, Cambridge University Press, 2003, Robert B. Griffiths, 9780521539296

Quantum field theory is arguably the most far-reaching and beautiful physical theory ever constructed, with aspects more stringently tested and verified to greater precision than any other theory in physics. Unfortunately, the subject has gained a notorious reputation for difficulty, with forbidding looking mathematics and a peculiar diagrammatic language described in an array of unforgiving, weighty textbooks aimed firmly at aspiring professionals. However, quantum field theory is too important, too beautiful, and too engaging to be restricted to the professionals. This book on quantum field theory... In this book, Robert Wald provides a coherent, pedagogical introduction to the formulation of quantum field theory in curved spacetime. Quantum theory provides an extremely accurate description of fundamental processes in physics. It thus seems likely that the theory is applicable beyond the, mostly microscopic, domain in which it has been tested experimentally. Here, we propose a Gedankenexperiment to investigate the question whether quantum theory can, in principle, have universal validity. The idea is that, if the answer was yes, it must be possible to employ quantum theory to model complex systems that include agents who are themselves using quantum theory. Analysing the experiment under this presumption, we find that one Consistent Quantum Theory. Search within full text. Get access. Buy the print book. Check if you have access via personal or institutional login. Log in Register. Zurek, Wojciech Hubert 2007. Quantum origin of quantum jumps: Breaking of unitary symmetry induced by information transfer in the transition from quantum to classical. Physical Review A, Vol. 76, Issue. 5 Consistent quantum theory. Quantum mechanics is one of the most fundamental yet difficult subjects in modern physics. In this book, nonrelativistic quantum theory is presented in a clear and systematic fashion that integrates Born's probabilistic interpretation with Schrödinger dynamics. Basic quantum principles are illustrated with simple examples requiring no mathematics beyond linear algebra and elementary probability theory, clarifying the main sources of confusion experienced by students when they begin a serious study of the subject. The quantum measurement process is analyzed in a consistent... Buy Consistent Quantum Theory on Amazon.com - FREE SHIPPING on qualified orders. This book presents what is known as the consistent quantum theory approach to quantum mechanics at a level accessible to university students in physics, chemistry, mathematics, and computer science, and can be used as a supplement to standard textbooks. It provides a clear explanation of points not yet adequately treated in traditional texts and which students find confusing, as do their teachers. The book will also be of interest to physicists and philosophers working on the foundations of quantum mechanics. About the Author. Robert B. Griffiths is the Otto Stern University Professor of Physi