

Download Quantum Theory Study Guide

Quantum mechanics is the science of the very small. It explains the behavior of matter and its interactions with energy on the scale of atoms and subatomic particles. By contrast, classical physics explains matter and energy only on a scale familiar to human experience, including the behavior of astronomical bodies such as the Moon. Classical physics is still used in much of modern science and ... A new theory explains the seemingly irreversible arrow of time while yielding insights into entropy, quantum computers, black holes, and the past-future divide. Quantum gravity (QG) is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics, and where quantum effects cannot be ignored, such as near compact astrophysical objects where the effects of gravity are strong. The current understanding of gravity is based on Albert Einstein's general theory of relativity, which is formulated within the ... From Classical to Quantum Shannon Theory Mark M. Wilde Hearne Institute for Theoretical Physics Department of Physics and Astronomy Center for Computation and Technology