Quantum Physics

Quantum physics is a field of physics that deals with tiny particles. It was developed in the 20th century to explain experiments that were not in line with the physical explanations of new experiments of the time, such as e.g. the discrete lines in the spectrum from hydrogen. It was eventually proposed that nature consists of discrete energy excitations, because this could explain many things – including the hydrogen spectrum. Discrete excitations were a familiar phenomenon from the mathematics describing waves, so a natural place to look for new models was in the wave universe. From here came the wave equation developed by Schrödinger, the so-called Schrödinger equation, which describes particles as states of a so-called "wave function", rather than classical particles with defined position and speed. The wave function only indicated a probability of where the particle is located, which was contrary to natural intuition and which has given rise to a philosophical debate related to the actual nature of quantum physical particles – a debate which persists to this day.