

Project Year

2003

Project Team

Faculty: Oleg Tchernyshyov, Physics & Astronomy Department, Krieger School of Arts & Sciences

Fellow: Jeffrey Wasserman, Physics & Astronomy Department, Krieger School of Arts & Sciences

Project Title

Virtual Quantum Mechanics

Audience

Graduate and undergraduate students of quantum mechanics

Pedagogical Issue

Quantum mechanics is one of the most difficult subjects in physics. The experimental results are often at odds with everyday experience, and the theory is not easy to comprehend.

Solution

Visualizations of quantum mechanics concepts, in the form of numerical simulations, will help students make connections between theoretical concepts and physical phenomena. This team proposes to develop interactive visual simulations of quantum experiments to complement the study of theory in quantum mechanics. Each numerical experiment will be paired with a homework problem. The simulations will be designed so that each one demonstrates the interplay of several theoretical concepts.

Technologies Used

HTML/Web Design, JAVA