Development, Testing and Efficacy of QuVis Simulations

MARK PAETKAU, Thompson Rivers University, ANTJE KOHNLE, St. Andrew’s University — Quantum mechanics is a cornerstone of physics education. From a student perspective quantum mechanics combines the wonder of its non-intuitive foundations as well as challenging new tools of wave mechanics and is a testing ground for students ability to visualize concepts. The QuVis (Quantum Mechanics Visualization) project provides simulations to aid in the visualization of and interaction with the foundations of quantum mechanics. QuVis simulations are designed to help students visualize and interact with basic quantum elements and experiments. The simulations are research based and have been refined through student feedback and individual observation as well as in-class trials. An overview of the resource and evidence for the effectiveness of simulations is presented.