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Improving Quantum Mechanics Instruction Using Tutorials

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At the end of their degree, most physics majors have proven that they can successfully solve some quantitative quantum mechanics problems. However, researchers have found that many students struggle to answer conceptual questions on the same topics. The finding of this discrepancy in students' qualitative and quantitative abilities is not new to the physics education research community, as a wealth of studies has shown this to be true throughout undergraduate physics instruction. Quantum mechanics is becoming increasingly relevant for STEM majors, especially as quantum technologies emerge. Efforts are being made to better understand the difficulties students have when learning quantum mechanics. The Physics Education Group at the University of Washington has been developing a set of *Tutorials* for upper-division quantum mechanics. In this talk I will discuss some of the most common difficulties students face and the tutorials that help to improve student understanding.