

Physics 140 – Week of October 1

Reading

10/3 – No reading.

For 10/5 – R&P §4.3.

1. An eigenvector of an operator is a vector on which the operator acts in a particularly simple way. Speaking geometrically (and imagining a vector in space with a certain length and a certain angle), what does an operator do to an eigenvector?
2. When you take quantum mechanics proper, you'll learn that all observable quantities, like energy, momentum, angular momentum, position, etc., are described by Hermitian operators. Given what you've learned in this section, does this seem like a good paradigm for quantum physics?
3. What did you find difficult or confusing about the reading? If nothing was particularly difficult, what was most interesting? Please be as specific as possible.

For 10/8 – R&P §4.4.

1. I hope this section blows your mind. What for you is the weirdest part? Can you see any way out?

Problems

R&P 4.1(a), 4.2(a,e), 4.7, 4.20.

As a reminder, reading responses are due in my email inbox (ekb2@stmarys-ca.edu) at 9:00 p.m. the night before class. Problem sets are due Monday at 4:00 p.m., in the manila envelope outside my office.