

Physics 4610, Quantum Mechanics  
Prof. Schroeder  
Spring 2018

## Review for Test 3

Explain each of the following in as much detail as you can.

1. Hermitian operator

2. Adjoint of an operator

3. Commutator

4. Matrix element

5. Ladder operators

6. Compatible/incompatible observables

7. Uncertainty principle

8. Angular momentum operators

9. Angular momentum quantum numbers

10. Spherical harmonics

11. Effective potential energy

12. Reduced radial Schrödinger equation

13. Atomic units

14. Hydrogen energies and wavefunctions

15. Spin matrices

16. Eigenspinors and spin eigenvalues

17. Larmor precession

18. Stern-Gerlach experiment

19. Addition of angular momenta

20. Singlet and triplet states