

PHYS 505: COURSE SPECIFICATIONS & RULES

PHYS 505 Advanced Quantum Mechanics

Fundamental concepts, Introduction to group theory and Lie algebra. Theory of total angular momentum (Lie algebra of the components of angular momentum, parity and time reversal, sum of two angular momentum and Clebsch-Gordan coefficients). Applications of time- dependent and time –independent perturbation theory, Scattering theory (Born approximation for the scattering wave, scattering using phase-shift analysis).

TEXT BOOK: MODERN QUANTUM MECHANICS (Second Edition), J. J. Sakurai and J. Napolitano, Addison Welsey

GRADE DISTRIBUTION: HOMEWORK 20%, MIDTERM EXAM I 20%, MIDTERM EXAM II 20%, FINAL EXAM 40%

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