

Physics 216. Quantum Mechanics. Professor Dine

Spring, 2004. Homework Set 6. Due Wed., June 9

1. Verify that the Hamiltonian we wrote for second quantized systems, including two particle interactions, yields the expected Schrodinger equation for the multiparticle wave function.
2. Write an expression for the scattering amplitude of two identical fermions, which interact through a potential $v(\vec{x}_1 - \vec{x}_2)$, in Born approximation; use the second quantized Hamiltonian for the computation.