

Physics 505 - Autumn 2005

HW VIII

Due 11/23/05

Overview: Recall that solving physics problems is not (just) about solving differential equations. Use physical reasoning to help solve the following exercises and be certain to show your work. It is also important that you practice completely solving these exercises, checking for errors as you go along.

- 1) Fetter & Walecka – 6.2 This exercise allows us to practice with Hamiltonian techniques.
- 2) Fetter & Walecka – 6.6 Here we apply Hamiltonian techniques to the familiar problem of the harmonic oscillator.
- 3) Fetter & Walecka – 6.9 Here we get to practice with the Hamilton-Jacobi equation.
- 4) Numerical Methods - see separate assignment sheet and notes – due after Thanksgiving (although you can turn it in early if you want).