

Physics 505 - Autumn 2010

HW V

Due 11/3/10

NOTE: The MidTerm Exam is Friday 11/5/10

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 – 4.1 (9 pts) Here we expand our study of small oscillations to include the full normal mode formalism.
- 2) Fetter & Walecka – 4.3 (9 pts) The double pendulum problem is a classic normal mode study and we should solve it.
- 3) Fetter & Walecka – 4.4 (7 pts) Here is a chance to return to a system we have already analyzed and apply the normal mode formalism to it.