MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF OCEAN ENGINEERING

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

13.013J/1.053J Dynamics and Vibration

Fall 2002

Problem Set 7

Issued: Day17

Due: 11 am, Day 20

(a) Problem 5.41

(b) Problem 5.42 + Stability Analysis for Problem 5.40

(c) Problem 5.44

(d) Problem 5.50

(e) Problem 5.75

All problems need to be solved by

- Lagrange and direct methods (and solutions compared).
- Static equilibria need to be determined.
- Linearized equations of motion around each static equilibrium need to be derived.
- Stability analysis for each linearized equation of motion around each static configuration.

(f) Self Evaluation in another sheet as per the instructions in the first class.

All students are supposed to work on all the problems assigned.