Homework #4

Course: 414.311A

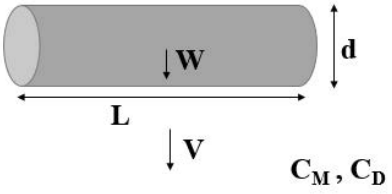
Due on

December 3, 2013

1. Consider a circular cylinder falling horizontally through water with initial velocity u_0. The cylinder has a diameter d, weight W, and length L.

(1) Using the Morrison's equation, derive the equation of motion of falling motion.

(2) Obtain the terminal velocity.



2. We obtained the general form of force on a bottom-mounted cylinder in finite depth, using the Morrison equation. Now consider a truncated circular cylinder in deep water in a regular wave. Derive the general forms of the force $\left(F_I, F_D \text{ where } F = F_I + F_D\right)$ for the truncated of draft h in deep water.