Physics UN2801 Professor Christ

due 11/05/2020

Assignment #7

Reading:

Nov 5 Kleppner and Kolenkow 12, 14.6

Problems:

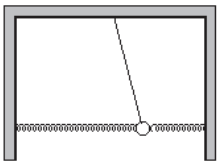
53. Kleppner and Kolenkow 5.13

54. Kleppner and Kolenkow 11.5

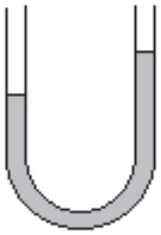
55. Kleppner and Kolenkow 11.12

56. Kleppner and Kolenkow 11.13

57. A mass m at the end of a massless rod of length L swings as a pendulum with two horizontal springs for negligible mass and spring constants k_1 and k_2 acting on it. Both springs are relaxed when the rod is vertical. What is the period of small oscillations? [From Feynman Exercises in Physics]



58. A vertical U tube manometer of constant internal cross-section A contains a total length of liquid L. Find the period of oscillation of the liquid. Neglect friction and assume that the amplitude of oscillation is such that the two liquid surfaces remain within the straight vertical portions of the tube. [From Feynman Exercises in Physics]



59. Kleppner and Kolenkow 12.6

60. Kleppner and Kolenkow 12.7

61. Kleppner and Kolenkow 12.12