Physics 22 Problem Set 7

Harry Nelson

Due Monday, May 21 in class

We'll finish Chapter 10 with the driven and driven damped harmonic oscillators this week. Then, we'll plunge into special relativity. Read Chapter 11, and don't worry about the optics info about fringes and so forth, we'll sidestep that.

The instructor is Harry Nelson, the TA is Joel Varley. A web page for the course is set up at http://hep.ucsb.edu/courses/ph22.

We meet MWF 1:00-1:50pm in 1640 Broida. There are **two sections**, attendance at **both** is mandatory. Joel Varley's section will take place Friday 11:00-11:50pm in 1802 Psychology, and Harry Nelson's will take place Friday 2:00-2:50pm in 2129 Girvetz. Harry Nelson's office hours will follow section until 5:00pm on Friday, either in 2129 Girvetz (if possible) or in the PSC. Joel Varley's office hours will will take place in the Physics Study Room (1019 Broida) on Tuesday from 9:00am to 10:00am, Thursday from 9:00am to 10:00am, and Friday noon-1:00pm.

Please make your work neat, clear, and easy to follow. It is hard to grade sloppy work accurately. Generally, make a clear diagram, and label quantities. Derive symbolic answers, and then plug in numbers after a symbolic answer is available.

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1. K&K 10.2
2. K&K 10.3
3. K&K 10.5 (the last part is very much like part of your problem from last week)
4. K&K 10.10
5. How much time does it take for light to travel from Isla Vista to:
   (a) Los Angeles (85 miles away)
   (b) San Francisco (277 miles away)
   (c) Mexico City, Mexico (1635 miles away)
   (d) Mumbai, India (8666 miles away)
   (e) Johannesburg, South Africa (10443 miles away)
