

# Class 17



PHY 232  
Spring 2003  
Prof. S. Billinge

# Announcements

## Exam 2

Class average = 67%

Results here on paper

## Homework

Set #7 due on October 28<sup>th</sup>

Sorry for late posting of set #6,  
hope to have it under control  
before next exam



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# Concepts

## Electromagnetic (EM) waves

- Properties of EM waves
- Speed of waves
- Power transmitted

## Electromagnetic spectrum

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The earth is heating up  
because:

1. Greenhouse gases act like a blanket and keep it warm
2. More energy is arriving from the sun during the day than leaving at night
3. Earth is lower temperature than the sun so radiates energy at longer wavelenths
4. Mankind is irresponsibly returning the atmosphere to primordial compositions before the time of animals

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Radio telescopes detect radio waves from outer space.  
The radio waves:

1. Come from alien radio stations
2. Come from exploding stars
3. Sound pretty bad when you play them on your radio

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You decide to steal electricity from the electric company inductively. You should:

1. Tape a coil flat against the mains line (and hire a lawyer)
2. Tape a coil perpendicular to the mains line (and hire a lawyer)
3. Wind a coil around the mains line (and hire a lawyer)
4. Forget it, pay your electric bill instead of the lawyer

# Feedback quiz

Split into groups of 2-3. Answer the following questions on paper and hand in on leaving. This can be done anonymously:

1. On a scale of 1-5 (5 is good) how would you rate the helpfulness to your learning of (1)helproom (2)exam review sessions (3)textbook (4)lectures
2. Suggest a constructive change that could be made to any or all of these resources to make them more useful

