

**Physics 209**  
**Fall 2002**  
**Homework 13**  
**Due Friday, December 6 at 5:00pm.**

This homework is due in two weeks, due to the Thanksgiving holiday next week. However, there will probably be another (last) homework (number 14), which will be due at the same time. You should plan on turning these last two homeworks in on time, even if you have not used up your free late homework, since at the end of the semester it will be necessary for the reader to finish the homework grading quickly.

**About the final exam:** The final exam will be held on Wednesday, December 11, 12:30-3:30pm, in 150 GSPP (Graduate School of Public Policy).

1. Jackson, problem 7.8.
2. Jackson, problem 7.16. Jackson implicitly assumes that the dielectric function  $\epsilon_{ij}(\omega)$  is real and symmetric.
3. Jackson, problem 7.20.
4. Jackson, problem 7.21. Jackson uses the word “nonlocal” in this problem to mean nonlocal in time, whereas in lecture we used the word to mean nonlocal in space. The idea is the same, however.