General Information on Homework

Unless it is otherwise announced, written problems will be collected at the beginning of the respective lecture period, and MATLAB exercises will be submitted in the dropboxes found in /afs/nd.edu/courses/ee/ee30344.01/dropbox/(your_afs_id)/ at the same time. Create a subdirectory for each homework in your dropbox, as for example . . ./dropbox/(your_afs_id)/hw2/ for homework 2. Discussion of homework problems with your comrades is encouraged, but each student must do his/her own work. Every keystroke producing a MATLAB file and its output must be performed by the student submitting the work. Students are encouraged to review the problems with answers at the end of each chapter of the text, since homeworks and lecture will not necessarily include every concept introduced in the text and covered on exams.

- Written work must be easily legible and complete. Concerning the level of detail you include in problems: when in doubt, write it down.
- You may use either of two options for organizing the MATLAB portion submitted into your dropbox: create one .m file including all exercises, or create separate .m files for separate exercises. In either case, make sure you clearly comment each section of the code to indicate which exercise you are solving. Some of the MATLAB exercises may call for answers which do not appear in plots. Place these answers as comments in the associated .m file.
- In addition to the .m files for MATLAB exercises, place into your dropbox postscript versions of any graphics requested as output from your program. Use subplot to keep plots on a single page for a single exercise where possible. You may write postscript via print -dpsc file.ps to put the current plot into file.ps.

Homework 2

Due: September 1, 2006, in class

Reading: cf. http://www/nd.edu/~mhaenggi/ee344/overview.html

- **A. Problems from textbook:** 1.21a,d; 1.22b,c,e,h; 1.32; 1.56a,d,f
- **B.** Problems from exercise book: 1.2a,d; 1.3.

C. Other problems:

- - (a) $\ln(1/(1+j))$ (b) $\cos(1+j)$
 - (b) $\cos(1+j)^{j}$ (c) $(1-j)^{j}$
- 2. Determine the (average) power of the following signals:
 - (a) $5 + 10\cos(100t + \pi/3)$
 - (b) $10\cos 5t\cos 10t$
 - (c) $e^{j\alpha t} \cos \omega_0 t \ (\alpha, \omega_0 \in \mathbb{R})$