Uppsala University
Department of Information Technology
Division of Systems and Control

Last Modified: 2003-08-22 by Richard Abrahamsson

Homework Assignment no. 5

Spatial Methods

Deadline: October 10

This fifth homework is based on **Exercise C6.13**. For your convenience code for the different spectral estimators can be downloaded at `http://www.prenhall.com/stoica`. Make sure that you use these functions correctly (Use "`help`". If still in doubt how to use the functions, try by inspecting the code directly.). Your solutions should be put into one of the two boxes marked *Inlämnings Uppgifter* on the second floor of the Department of Systems and Control (House 8).

The instructions for **Exercise C6.13** are straightforward but below follow some additional information on what is of particular interest and a small additional task.

This exercise is similar to **Exercise C6.12** which we did during the fifth computer lab assignment. If you still have your code from that lab you can reuse a large part of it for this assignment.

Compare the results to that of the lab (if you do not remember just use $P = I$ to do it again). Is there a difference in performance of the methods when you have fully correlated signals compared to when the signals are uncorrelated?

Also try $\theta_2 = 60^o$ with the P given in **Exercise C6.13** . Does this change the performance of any of the DOA estimators?

If you notice any significant differences in the behavior of the estimators for the different scenarios, try to find an explanation.

Present you plots in a manner that makes comparison easy (you do not need to show plots with results from computer lab 5).