EE5040: Adaptive Signal Processing
Assignment (Due on Oct 30, 2013)
Marks: 10

The assignment problems have been chosen from the textbook by A. H. Sayed (2008). If you need access to the book, please meet me.

1. Write programs to generate the results in Figures 16.2 and 16.3 of the book (in pages 250-251). Discuss the results and present your observations.

2. Solve one of the following sets of problems (each corresponding to a stochastic gradient algorithm).

   (a) Problems III.14, III.15, and III.29: Sign-error LMS

   (b) Problems III.12, and III.26: Leaky-LMS

   (c) Problems III.16, and III.30: LMF

   (d) Problems III.17, and III.31: LMMN

   (e) Problems III.21, and III.36: CMA1-2, NCMA

   (f) Problems III.18, and III.33: CMA2-2

   (g) Problems III.19, and III.34: RCA

   (h) Problems III.20, and III.35: MMA

Submission instructions: Each of you needs to submit a report by Oct 30, 2013. For the simulation assignment, submit a report by email (with subject: Assignment submission) with the appropriate plots in a single PDF file. Your observations from the plots should be clearly mentioned in the report. For the second problem, hand-written solutions to the problems should be submitted. While you can discuss the problems with others in the class, the simulation programs and report have be *original*. Any case of copying will result in no credit for the assignment.

Evaluation: Evaluation will be based on the reports and, if required, a viva.