

PRINCETON UNIVERSITY
Fall 2013
ELE 525: Suggested Self Study Problems

December 16, 2013

You do not need to submit solutions.

(Solutions will be posted around January 6th-10th, 2014)

- 1 . Textbook, p. 691, Problem 22.12. Equivalence of the regression and the solution from the orthogonality equation.**
- 2. p. 692, Problem 22.15. Alternative derivation of the Wiener-Hopf equation (22.89) and (22.90).**
- 3. p. 693, Problem 22.20. Optimum smoothing filter for uncorrelated signal and noise.**
- 4. p. 551, Problem 18.5. MLE of $g(\theta)$.**
- 5. p. 551, Problem 18.6. The CRLB and the Cauchy-Schwartz inequality.**
Hint: Eq. (18.113) of Problem 18.4 of page 550.
- 6. p. 567, Problem 19.4. Relation between Q -function and $\log L$ -function.**
- 7. p. 569, Problem 19.9. EM algorithms for a MAP estimate.**
- 8 . p. 607, Problem 20.8. Derivation of the product forms.**
- 9. p. 608, Problem 20.12. Forward-backward formula**
- 10. p. 610, Problem 20.17. The Viterbi algorithm for an AWGN channel**