

ECE 520.651 Random Signal Analysis

Homework # 3

Due 9:00 AM on Tuesday, October 6, 2009.

Review Chapter 4, Sections 4.3-4.7, from Stark and Woods. Then review pages 60-64, 71 and 81-82 from Prof. Papamarcou's notes. In particular, make sure you are comfortable with various moments of a random variable, its moment generating function and characteristic function — which are all *expectations* of various functions of the random variable — and the use of these expectations to bound the so called “tail probabilities” of random variables.

1. Solve problem **4.23** from Stark and Woods.
2. Solve problem **4.24** from Stark and Woods.
3. Solve problem **4.28** from Stark and Woods.
4. Solve problem **4.30** from Stark and Woods.
5. Solve problem **4.31** from Stark and Woods.

Finish reading Chapter 3 from Stark and Woods after finishing the homework. We will go through it *very quickly* in class.