

ESE 547 Fall 2009; September 23

Class	Topics	Sections	Reading
4	Signal Flow Graphs	Notes	Secs. 8.1, 8.2
	Mason's Formula	Notes	
	Basic IIR and FIR Forms	8.2, 8.3.1, 8.4	Sec. 8.3.4
	State Variables	Notes	
	Examples: DFII & TDFII State Equations	Notes	

Homework:

1. Chapter 8: Problems 1, 3, 6, 8, 9, 20, 25, and 27 pp. 477 – 482
(Previous Edition: Chapter 6: Problems 1, 3, 6, 8, 9, 10, 21, 26, 28, and 29, pp. 409 – 412.)
2. (MATLAB): Do problem M8.2, p. 487.
(Previous Edition: problem M6.2, p. 421).
3. Draw the signal flow-graph to implement a general second-order transfer function in each of the following forms:
 - (a) Direct Form I
 - (b) Direct Form II
 - (c) Transposed Direct Form I
 - (d) Transposed Direct Form II

For each form, write the corresponding state equations in matrix form, and find the transfer function by using Mason's formula. For the DFII and TDFII, find the transfer function from the state equations.