

ECE 601 Linear Systems

Homework #6

Due Date: October 23, 2025

1. Kailath Problem 2.3-14
2. Kailath Problem 2.3-26
3. Kailath Problem 2.3-29
4. **Controllability and Observability of the Spring-Electromagnet System:** Reconsider the linearized spring-electromagnet system in Practice Problems Set #1.
 - (a) Using the parameter values given in Homework #2, compute the controllability matrix for the system and determine if the system is controllable.
 - (b) Repeat part (a) but now for observability.