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Chapter One — Input/Output Properties

- An Example.
- Review of Linear Algebra.
- Linear Systems.
- Controllability and Observability.
- Minimality.
- Realizability.
- Notes and References.

Chapter Two — The LQ Regulator

- Stabilization.
- Properness.
- Optimal Control.
- The Riccati Equation.
- The Space $M(m, n, p)$.
- Notes and References

Chapter Three — Brownian Motion

- Preliminary Definitions.
- Stochastic Calculus.
- Cameron-Martin-Girsanov Formula.
- Notes and References.

Chapter Four — Filtering

- Filtering.
- Consistency.
- Shannon Information.
- Notes and References.

Chapter Five — The Adaptive LQ Regulator

- Introduction
- Smooth Adaptive Controls
- Adaptive Stabilization
- Optimal Control
- Bellman Equation
- Notes and References