Decision and Estimation in Data Processing

Introduction

Organization

- 4 credits
- Professors
  - Lectures: Nicolae Cleju
  - Laboratories / Seminar: Nicolae Cleju
- Time schedule
  - 14 weeks of lectures (3h each)
  - 14h laboratory = 7 laboratories $\times$ 2h each
  - 14h seminar = 14 seminars $\times$ 1h each
- My office hours: *To Be Announced* (best by appointment)

Evaluation

- Exam = 60%
  - 60% of final grade
  - Exercises and Theory
  - Similar to Information Theory exam
- Applications = 40%
  - Laboratory = 20%
    - in Matlab / Simulink
    - activity throughout semester (10%)
    - final laboratory practical test in Matlab / Simulink (10%)
  - Seminar + Intermediate tests = 20%
    - 3 tests: in Week 5, Week 8 and Week 11
    - test = one exercise, 30 minutes, during seminar
    - Tests grade = average of the three tests grades + presence at Seminar
- Final grade = 60% Exam + (20% Lab + 20% Tests)

Course structure

1. Chapter I: Random signals
2. Chapter II: Statistical decision theory
3. Chapter III: Statistical estimation

Bibliography (TBD)

1. ***Elements of Information Theory*, Valeriu Munteanu, Daniela Tarniceriu, Ed. CERMI 2007**
2. *Elements of Information Theory*, Thomas M. Cover, Joy A. Thomas, 2nd Edition, Wiley 2006
3. *Transmisia si codarea informatiei*, lectures at ETTI (Romanian)
4. *Information and Coding Theory*, Gareth A. Jones, J. Mary Jones, Springer 2000