

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)
 - ▶ 7 laboratories (2h each)
 - ▶ 7 seminars (2h each)
- ▶ My office hours: *To Be Announced* (best by appointment)

Evaluation

- ▶ Exam
 - ▶ 60% of final grade
 - ▶ theory and exercises
 - ▶ Many small questions (like in Information Theory exam), both for theory and exercises
- ▶ Laboratory
 - ▶ 20% of final grade
 - ▶ in Matlab / Simulink
 - ▶ grade will be computed from:
 - ▶ activity throughout semester (10%)
 - ▶ final laboratory practical test in Matlab / Simulink (10%)
- ▶ Intermediate tests
 - ▶ 20% of final grade
 - ▶ 3 tests: in Week 5, Week 8 and Week 11
 - ▶ test = one exercise, 30 minutes, during lecture or laboratory (will be decided)
 - ▶ Tests grade = average of the three tests grades
- ▶ Final grade = 60% Exam + 20% Lab + 20% Tests

Course structure

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

Bibliography (TBD)

1. ***Elements of Information Theory*, Valeriu Munteanu, Daniela Tarniceriu, Ed. CERM I 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