Algebraic Signal Processing Theory

Special topic course 18-799F
Spring 2007
1. Lecture Jan. 17, 2007

Instructor: Markus Pueschel

TA: Aliaksei Sandryhaila

What do you learn in this course?

- Algebraic Signal Processing (ASP) Theory
- Expand you math background: (Abstract) algebra
  - Vector spaces (linear algebra), rings, algebras, modules, groups (a little bit)
  - Understand what algebra is all about
  - Only basics but in an application setting, namely signal processing (SP) (concrete exercises, trying out things in Matlab)
- Be among the first to learn a new approach to the foundations of (linear) signal processing
  - A deeper, detailed understanding of existing SP
  - Learn novel SP methods in 1-D and 2-D
- Some meta-knowledge (e.g., proving, presenting, …)

How we are going to do this course

- Website with all info (incl. lecture notes, background material): http://www.ece.cmu.edu/~pueschel/teaching/18-799F-CMU-spring07/course.html
- Grading
  - Attendance
  - Homework (very important)
  - Midterm, maybe: Short exam around early April
  - Research project (start around mid February)
- TA: Aliaksei Sandryhaila
- Office hours:
  - Markus Pueschel: Tuesdays 2-3 pm
  - Aliaksei Sandryhaila: tbd
- Other
  - Feedback, maybe some ideas from active learning
  - I will rarely use slides

- Questions?