PHY1373 Signal processing - Information theory

[22.5h+15h exercises] 3 credits

Teacher(s): Giacomo Luca Bruno, René Prieels
Language: French
Level: First cycle

Aims

- Introduce the student to analysis, transmission and processing of a signal.
- Introduction to the quantitative treatment of the notion of information.

Main themes

- Basic notions of signal processing: description and numerical treatment of a deterministic signal, filters, random signals.
- Mathematical tools: Fourier series and Fourier transform (continuous and discrete), Z transform, distributions, time-frequency transforms
- Introduction to information theory.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites: elementary notions of complexe variables functions, Fourier series and Fourier transform. Basics in digital electronics (binary numbers calculations). Knowledge of operators in vector space can be usefull.