

Random signals

Introducing

Description

- Introduction : deterministic signals and spectral characterization
- Probability theory and random signal
- Stochastic processes and random signals : first and second order characteristics, stationarity, ergodicity, discrete-time random signals
- Spectral analysis: Wiener-Kintchine Theorem
- Linear filtering

Objectives

Introduce the main concepts allowing a characterization of random signals. In particular, the main properties : stationarity, ergodicity, needed for a spectral characterization useful in electronics and automatic control, are specifically developed. The linear filtering of random signals concludes the course

Necessary prerequisites

Probability theory, random variable, Fourier Series, Fourier Transform, Linear invariant systems (Transfer function)

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse