Filtering

Component
École Nationale Supérieure d'Électrotechnique d'Électronique d'Informatique d'Hydraulique et des Télécommunications

Semester
Printemps

In brief

- **Code:** N6AE03B
- **Open to exchange students:** No

Presentation

Objectives

The objective of this course is to understand the methods of synthesis and design of analog filters.

Description

This course consists of seven parts:
- Analog front-end architecture: Heterodyne and superheterodyne. Role and specification of filters in the system.
- Determination of a partially known filter function: how to find a function or family of functions that meets a known electrical characteristic (either magnitude or phase, real or imaginary parts, even or odd parts).
- LC network synthesis techniques: Cauer, Foster, and Darlington methods.
- Attenuation approximation functions: Butterworth, Chebyshev.
- Design of prototype low-pass filters.
- Frequency transformations: from low-pass prototype to high-pass, band-pass, or band-stop filters.
- Active filters.

Pre-requisites

None

Useful info

Place

Toulouse