RF Circuit

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

Semester
Printemps

In brief

- **Ametys Code:** N8AE03C
- **Open to exchange students:** No

Presentation

Objectives

- Design passive functions using ideal transmission lines
- - Learn to synthesize an RF passive function
- - Size a passive device based on couplers

Description

Course: Study of microwave spectrum and applications: Microwave filters based on transmission lines: Richards transformation, Kuroda transformation, impedance inverter model, concept of periodicity and out-of-band response control Multipoles: Power dividers Couplers: hybrid, magic T, proximity couplers, cascade-Tandem assemblies, Lange coupler Design of coupler-based functions: phase shifter, attenuator, multiplexer, mixer, balanced configuration

- Lab: Non-linear simulation of a frequency conversion chain (ADS). Design of a band-pass filter with stubs: from synthesis to electromagnetic simulation

Pre-requisites

Transmission lines