EE-490(e)

# Lab in microwaves

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| Cursus | Sem. | Type |
|---|---|---|
| Electrical and Electronical Engineering | MA1, MA3 | Opt. |

| | |
|---|---|
| Language of teaching | English |
| Credits | 4 |
| Withdrawal | Unauthorized |
| Session | Winter |
| Semester | Fall |
| Exam | During the semester |
| Workload | 120h |
| Weeks | 14 |
| **Hours** | **4 weekly** |
| Practical work | 4 weekly |
| **Number of positions** | |

**It is not allowed to withdraw from this subject after the registration deadline.**

## Summary

This lab teaches the major measurement techniques used in microwaves

## Content

- the slotted line
- microwave couplers
- time domain reflectometry
- antenna measurement
- spectrum anayser
- network analyser
- noise measurement

## Keywords

microwaves, SA, VNA, slotted line, antennas

## Learning Prerequisites

### Required courses

electromagnetism

### Recommended courses

microwaves (in parallel)

## Learning Outcomes

By the end of the course, the student must be able to:

- Use tn lmajor measurement techniques in microwaves
- Analyze results
- Estimate measurment precision

- Synthesize results in a report

## Transversal skills

- Write a scientific or technical report.
- Collect data.
- Make an oral presentation.

## Teaching methods

labs, discussions and presentations

## Expected student activities

- do the experiments
- synthetize the results
- present and discuss the results
- do a report

## Assessment methods

Both the work in the lab and the reports will be assessed

## Resources

### Websites

- https://www.epfl.ch/labs/mag/page-141487-en-html/

### Moodle Link

- https://go.epfl.ch/EE-490_e