



PRACTICAL SESSION

Mechanical Measurement



ENGINEERING
DEPARTMENT



MECHANICAL & MATERIALS ENGINEERING
FOR PARTICLE ACCELERATORS AND DETECTORS

Introduction

Welcome to this hands-on session dedicated to Mechanical Measurements !

Helpers for the session :



Michael Guinchard - CERN
Role: Mechanical
Measurement Lab Leader
michael.guinchard@cern.ch



Oscar Sacristan- CERN
Role: Mechanical
Measurement Engineer
oscar.sacristan@cern.ch



Kurt Artoos - CERN
Role: Design Office
Engineer
Kurt.artoos@cern.ch



Stefan Höll- CERN
Role: Mechanical
Measurement Engineer
stefan.hoell@cern.ch



Thomas Sahner - CERN
Role: Design Office
Engineer
Thomas.Sahner@cern.ch

CERN Mechanical Measurement Lab Website : [Here](#)

Objective & Contents

...in connection with the lectures!

“Computational tools” 4th June by F. Carra

“Mechanical measurements” 5th June by K. Artoos

Objectives :

- Acquire experience with a range of static and dynamic measurement techniques;
- Learn how to set a measurement chain from the sensors to the measurements;
- Apply static strain measurement techniques to a practical scenario, such as measuring strain verifying compliance with engineering specifications;
- Manipulate small setup to understand signal treatment basics and determine mechanical properties of metallic materials based on vibration measurements.

Contents :

2 specific sub-sessions will be held covering different aspect of measurement techniques

- Static strain measurement based on optical fibres.
- Dynamic measurements to extract mechanical properties

Introduction

21 / 22 students

10 / 11 students – Room B2

10 / 11 students – Room C7

- **Topic** : Static strain measurement based on optical fibres.
- **Duration** : 1h30 minutes
- **5 groups**
- **Helpers** : Michael, Kurt, Thomas

- **Topic** : Dynamic measurements to extract mechanical properties
- **Duration** : 1h30 minutes
- **4 groups**
- **Helpers** : Oscar, Stefan, Thomas



Enjoy your practical
session with us!



ENGINEERING
DEPARTMENT



MECHANICAL & MATERIALS ENGINEERING
FOR PARTICLE ACCELERATORS AND DETECTORS