MEASUREMENT TECHNICS ASSOCIATED WITH IMPACT CONFIGURATIONS

FOR04

Total length of training: 16 hours
Start: Day 1 at 11:00 | End: Day 3 at 12:00

PREREQUISITES

Basic knowledge in metrology

TARGET POPULATION

Technicians and engineers working in impact or characterization laboratories

KNOWLEDGE TESTING METHOD

Final MCQ to validate knowledge, leading to a certificate at the end of the course

TRAINING OBJECTIVES

- Define a measurement adapted to the phenomenon to be analyzed
- Set up a measurement chain and know how to calculate uncertainties
- Get to grips with the most appropriate measurement technics for impact configurations

COURSE CONTENT

- Presentation of the benefits of measurement in impact configurations
- Theoretical courses on the main technics/ sensors: projectile velocity measurement, strain gauges, high-speed cameras, accelerometers, interferometry...
- Handling digital oscilloscopes and acquisition systems
- Definition and wiring of a measurement chain with associated uncertainty calculations
- Practical work in the laboratory:
  - Velocity measurement on a ballistic experiment
  - Setting up a high-speed camera
  - Measurement of plate deformation: comparison between local measurement (strain gauges) and field measurement (digital image correlation)
  - High-G acceleration measurement
- Presentation of highly instrumented experiments