



INO-CNR
ISTITUTO
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CNR-INO

National Research Council - National Institute of Optics

Our **MISSION** is to promote, support and perform research in the strategic fields of **Optics**, **Atomic Physics** and **Matter-Radiation Interaction**

Main site: FLORENCE

**APPLICATION
FIELDS:**

- Environment
- Health
- Energy
- Cultural heritage
- Safety



Six sites all over Italy

NUMBERS (2013):

- **167** JCR/ISI publications
- **70** research projects
- about **21 M€** budget

STAFF AND FACILITIES:

About **160** researchers, **50** temporary employees, technicians and administration. Optical, mechanical and electronical workshops



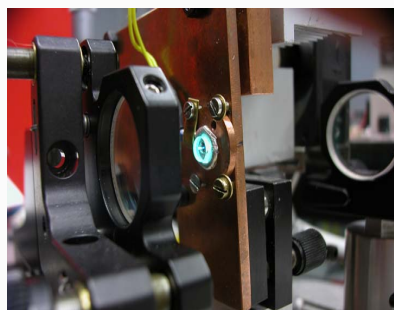
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Spectroscopy & PHotonics for Environmental Research and Earth Studies (www.ino.it/SPHERES): Expertise and Applications

Concentration measurements of dangerous species:



Telemetric-LIDAR for measuring PM10 at 10-100 m distance

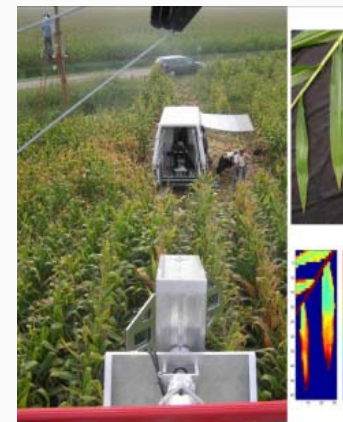
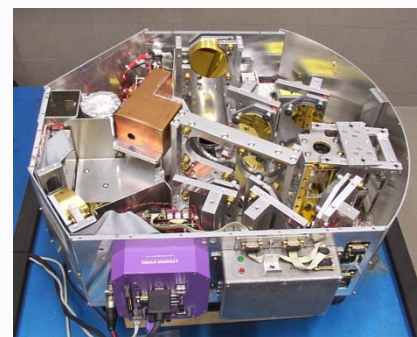


Studies on novel solid state laser materials (Yb and Ce doped)
Development of solid state laser sources



Trace gas measurements in the upper troposphere/lower stratosphere: **CO, CH₄, H₂O, HNO₃, etc**

Fluorescence LIDARs (FLIDAR) for the monitoring of ecosystems, vegetation, water bodies



FTS for vertical sounding of the atmosphere for 3D maps of composition (H₂O, CO₂, O₃, N₂O, CH₄, etc.) and temperature

Staff: 9 researchers, 1 technician, three guests