ELECTRICAL MEASUREMENTS AND INSTRUMENTATION LABORATORY

RESEARCH TOPICS

Development of sensitive measurement techniques for electrical, magnetic and thermal characterization of materials used in electrical engineering

"conducting" materials



"insulating" materials

Insulating polymers Functional ceramics Textiles

Superconductors Thermoelectrics Magnetoresistive materials

...

These research activities are closely related to the development of electrical engineering applications.

SUPERCONDUCTORS

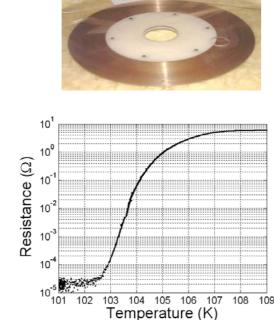
and other "functional" ceramics used in

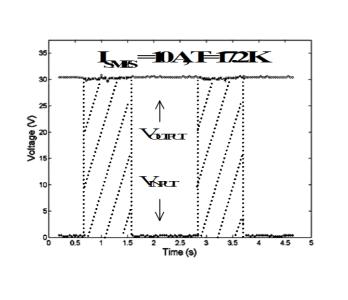
ELECTRICAL ENGINEERING

Some examples...

Electrical resistance and critical current of a 350-m long coil [BSCCO/Ag]



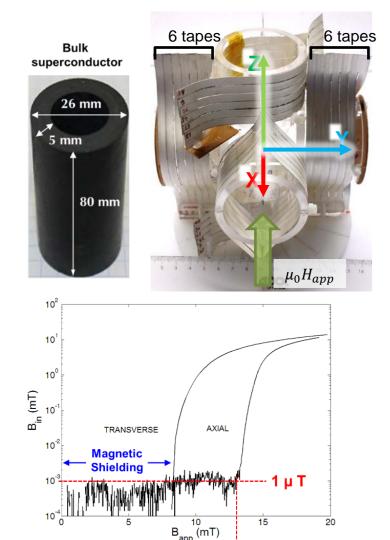


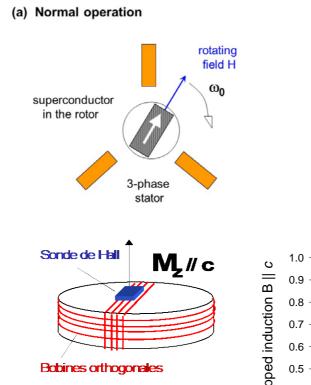


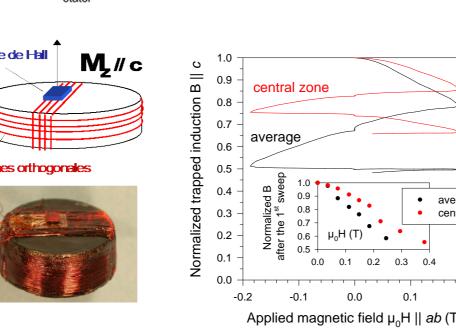
(b) Transients, faults, changes of loads

Magnetic shielding

"Crossed magnetic fields"





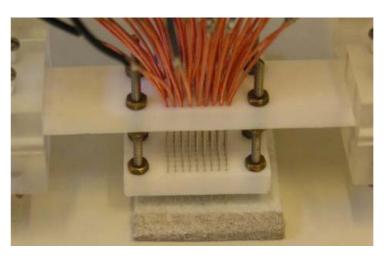


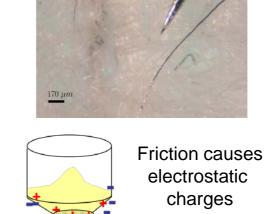
ELECTRICAL INSULATORS

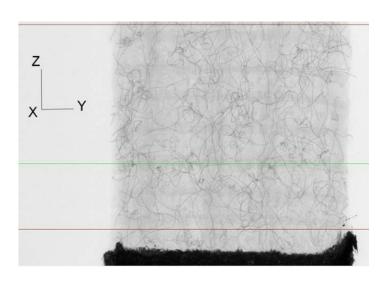
and other weakly conducting materials (textiles, polymers, ceramics, etc.)

Some examples...

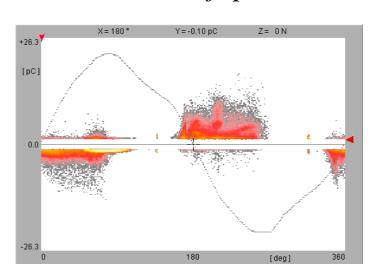
Microprobe for measuring conducting textiles used as filters

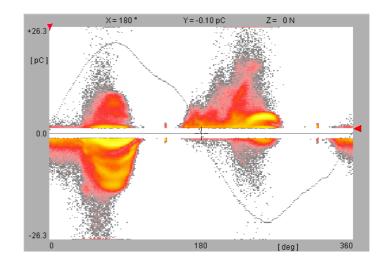




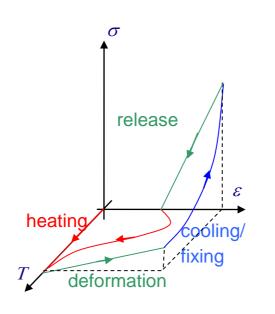


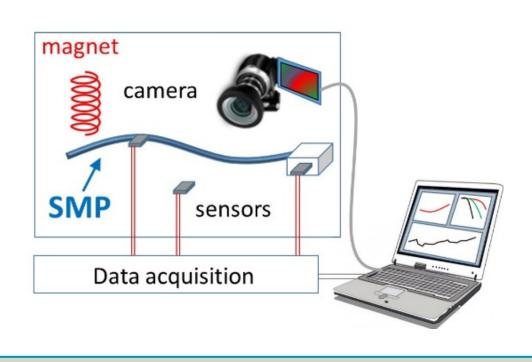
Measurement of partial discharge (PD) patterns





Measurement of smart composites used as shaped memory polymers



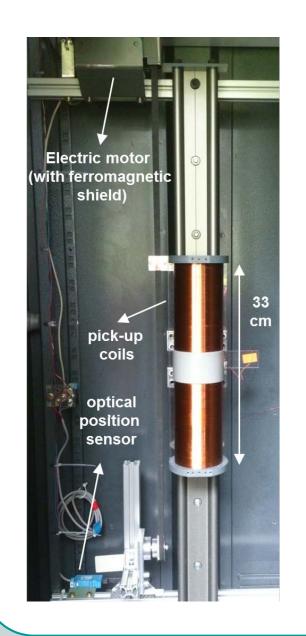


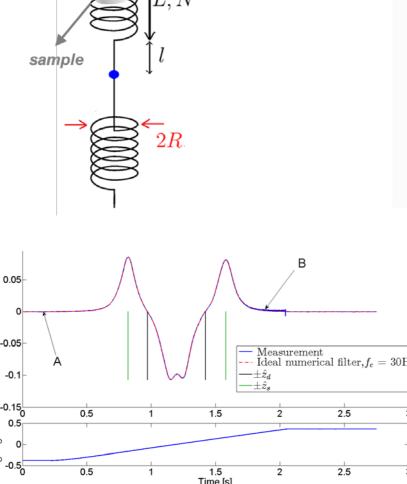
DESIGNAND IMPLEMENTATION OF SENSITIVE MEASUREMENT SYSTEMS

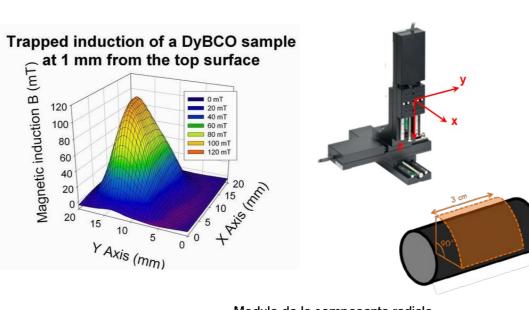
Magnetometer for large samples

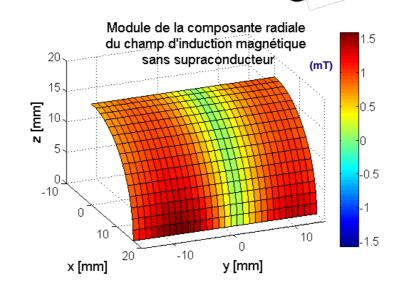
3D Mapping with a miniature Hall probe

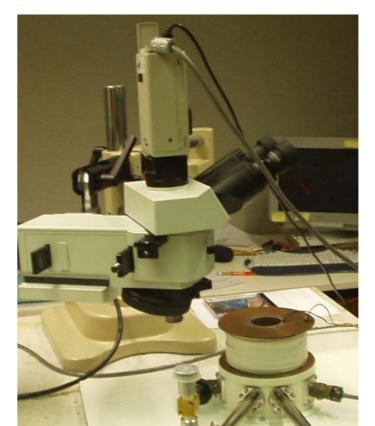
Magneto-Optical measurement system

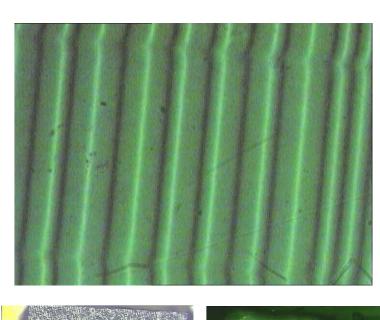


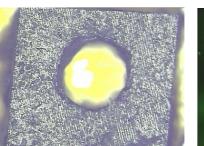


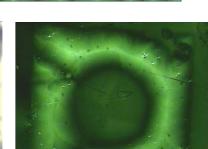














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