icma

Instituto de Ciencia de Materiales de Aragón

SCIENTIFIC EXCELLENCE

TEACHING
TRAINING
DISSEMINATION

OBJECTIVES

TECHNOLOGICAL DEVELOPMENT
TECHNOLOGY TRANSFER
INTERNATIONALISATION

RESEARCH LINES

1 FUNCTIONAL ORGANIC MATERIALS

- Molecular and polymeric materials
- Materials based on liquid crystals
- Organic solar cells
- Bio-inspired materials
- Molecular electronics

MICROSTRUCTURES A LA CARTE

2 MATERIALS FOR ENERGY & LASER PROCESSING

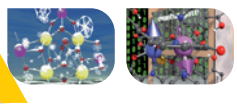
- Structural and functional ceramics
- Laser chemistry of surfaces, coatings and nanostructures
- Superconductors and thermoelectric materials
- Compounds, nanocomposites and nano-fibers for energy applications

POLARITONIC MATERIALS

3 MAGNETIC MATERIALS

- Structural and electronic properties of strongly correlated transition metal oxides
- Physics of materials at low temperatures
- Nanostructured magnetic materials
- Thermal and magnetic properties of multifuncional molecular material
- Physical properties of graphene

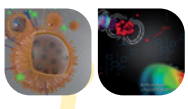
MATERIALS FOR QUANTUM COMPUTATION AND MAGNETIC REFRIGERATION



4 MATERIALS FOR BIOLOGICAL APPLICATIONS

- Nanoparticles for biological applications
- Image and vision
- Macromolecules for biological applications

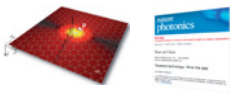
NANOPARTICLES FOR BIOLOGICAL APPLICATIONS AND MOLECULAR THERMOMETRY



5 THEORY AND SIMULATION IN MATERIAL SCIENCE

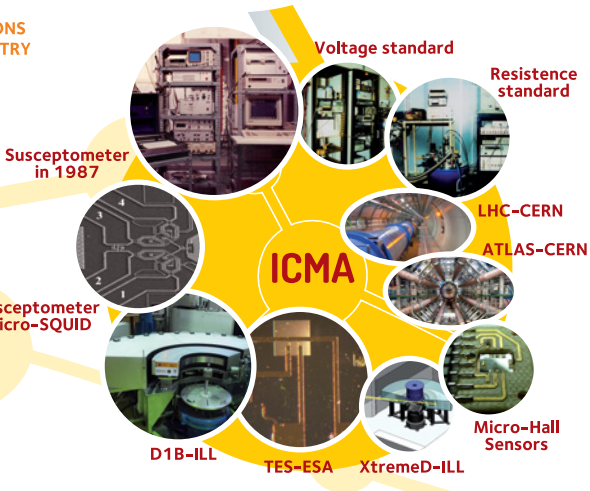
- Nano-photonics
- Complex systems and nonlinearity
- Quantum computing circuits

PLASMONICS OF GRAPHENE

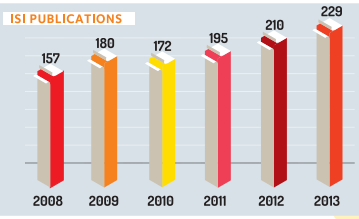


HIGH INVOLVEMENT IN LARGE SCALE FACILITIES

ADVANCED SCIENTIFIC INSTRUMENTATION



SCIENTIFIC RESULTS



LEADERSHIP

- Magnetism and calorimetry at very low temperatures
- Physics and chemistry of molecular and polymeric materials
- Nanophotonics and graphene plasmonics
- Ceramic materials
- LASER technology
- Advanced scientific instrumentation

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