

Synthesis and characterization of intermetallic alloys

Research project

In the framework of the project NoMAH “Novel Materials for Hydrogen Storage”, we will synthesize and characterize intermetallic alloys of the AB and AB₂ families with novel compositions and/or microstructures tailored to improve hydrogen sorption properties, such as activation temperature, gravimetric capacity, cyclability.

Activity plan

- Synthesis of intermetallic alloys for hydrogen storage by ball milling and arc melting.
- Structural and microstructural analysis by x-ray diffraction with full profile refinement and scanning electron microscopy.
- Characterization of hydrogen sorption thermodynamics and kinetics by Sievert apparatus and differential scanning calorimetry.