IDF INNOV

From invention to innovation

X-RAY, MICROSCOPY & HIGH PRESSURE/ TEMPERATURE PLATFORM

Platform for the study of physical and chemical characteristic evolution in materials

SCIENTIFIC EXPERTISE

- Plasma Processes, (nano) materials and metals
- Mechanics of Materials
- High pressure - High temperature Processes
- Soft chemistry processes
- Physical characterization of thin films and nanostructures

APPLICATIONS

- Nanomaterials, Metallurgy, Semiconductors, Energy (transport and storage), Medical Technologies

TRACK RECORD

- Project: Synthesis of Carbon nano-tube, Spray Plasma, Photonic crystals
- Organization: ITER, Polytechnique, UC Berkeley

PUBLICATIONS

A. Tallaire & al. Diam. & Relat. Mat., 51, 55-60 (2015).
K. Ouaras & al. J. Nucl. Mater. 466, 65-68 (2015).
L. Znaidi & al. Coatings, 3(3), 126–139 (2013)

CONTACT

Mail : bd-services@idfinnov.com
Phone : +33(0)1.80.05.65.01

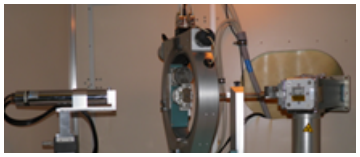
X-Ray Diffraction (XRD) ▪ Microscopy ▪ High pressure and high temperature testings ▪ Materials

SERVICE DESCRIPTION

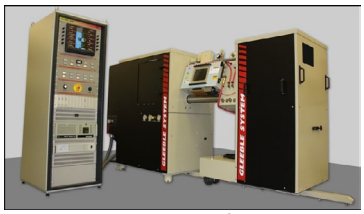
The PF is integrated to the Laboratory of Sciences and Materials Process (LSPM) gathering nearly 120 people in R&D. It covers a wide spectrum of material fields ranging from the development to the optimization, through characterization.
In the frame of its R&D activities, the PF possesses advanced equipments to meet issues and industrial needs related to the development of new materials:

- A X-Ray diffractometer Park with goniometer of three lines and four circles (including prototypes), a portable model, and a model for single crystals;
- Electron microscopes, TEM and SEM, and AFM
- Tools to design materials under high pressure conditions, diverse treatment applications, various testings and mechanical characterization studies.

TEM with a system of filtered imaging (GIF) and beam scanning (STEM)



4 circles XR Diffractometer



Gleeble 3800 for high pressure physics simulations (20t) and thermomechanical characterization (© Gleeble)

OFFER

- Structural characterization of materials (crystal, powder, solid) under various conditions (*in situ*, controlled atmosphere) and scales (meso to nano), with an analysis of their physico-chemical properties;
- Advice, Expertise and training on materials;
- Possible additional analyzes by spectrometry or in clean room;